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NATIONAL ENVIRONMENTAL POLICY

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CHAPTER 1

BACKGROUND ASSUMPTIONS

1.1. Background

[1.] Adopted in 1997, the Constitution of the Republic of Poland states, that **the Republic of Poland provides for the protection of the environment, while pursuing the principle of sustainable development** (Article 5), and it proclaims also, that the protection of the environment is the obligation, *inter alia*, of public authorities, who, through their policy, should provide for ecological safety for the sake of both the contemporary generation and the future generations (Article 74). Hence, this new Constitutional order calls for new National Environmental Policy including sectoral strategies and the action plans which are to be harmonised with this new order. It is the **Man**, who is the supreme value in policies pursued by the Republic of Poland The Man is also the supreme value in the context of the National Environmental Policy. That means, that the public health as the whole, the environmental comfort which serves the life and activity of local communities, as well as the life of each individual citizen are the key, unquestionable criteria underpinning implementation of environmental policy on every level: in the workplace and in dwelling place, and also on local, regional and national levels. New National Environmental Policy is to serve for satisfying the growing human needs, both material ones, and those pertaining to the quality of the environment, that surrounds humans. The Man, including its activity, is closely linked with the natural system (air, water, soil, ecosystems, biological resources, biological diversity). For maintenance of balance within this system coherent and co-operate management is required of both the access to environmental resources and the elimination and prevention of environmentally adverse impact from any economic activity (i.e. environmental protection), as well as of managing rational use of natural resources (i.e. water management, forestry, protection and utilisation of raw material and soil resources, town and country planning). This must be reflected in adequate **management structures** on central, provincial, and self-governmental levels, and by such division of competencies, responsibilities and available procedures, so as the objectives of environmental policy on each level could be determined on the basis of recognised needs - local, regional and national, whereas the measures of their achievement could be identified, first of all, on the basis of both ecological and economic effectiveness. At the same time, it is necessary to promote and create the conditions among enterprises, who are directly or indirectly taking use of environmental resources and who introduce changes tothe environment, so as the environmentally sound management systems could be developed which are focused on regular elimination, or when it is not possible, on minimising unfavourable impact on the environment and its resources. Only in such situation one could say, that the environmental safety has been provided. The **environmental safety,** of both the public and the economy, requires not only the safeguards to be introduced against adverse environmental impact from economic activity the territory of Poland and beyond its borders, but it also needs safeguarding available water resources, in order to satisfy quantitative and qualitative needs, retaining agricultural production area with desired parameters (chemical and physical soil properties, water

conditions, biological diversity), expansion of both the forestage and the surface of protected areas. For the environmental safety of humans means not only clean air, healthy water, and healthy and safe food, but it also means recreational opportunities and permanent occurrence of all the currently recognised wildlife species. In this context, the environmental safety of all the public should be one of essential criteria to be taken into account when assessing possible political and legal activities aimed at re-privatisation of forests and waters that are still the State Treasury property. The need to base the further social and political progress on the principle of sustainable development results from **adverse effects** (on the environment, human health, and to more and more growing degree, on economic activity) of so far intensive economic development with uncontrolled, often irrational use of natural resources, that the highly developed societies experienced painfully already in the first, and more intensively, in the second half of the 19th century. This phenomenon led to, *inter alia*, deforestation of huge areas in Southern and Western Europe, and to disturbances in biological equilibrium in these areas. This resulted in extinction of many species in considerable areas. Similar processes took place, as they have been taking now, in many developing countries, *inter alia*, in certain territories of Asia and South America. In Poland, irrational approach to use natural resources was baked up additionally by central management of the national economy, that confined the scope for application of reliable economic account, and it did not induce any interest to cost efficiency, resources saving, and counteracting their wasting. During 1950-1988, the state of the environment in many regions of the country deteriorated regularly, first and foremost, because of excessive river and air pollution, and land surface degradation. At that time, Poland was one of the most polluted countries in Europe, and the structural reasons for that condition were low water and raw material prices, forced development of heavy industry and growing technological and civilisation gap. At the same time, despite those unfavourable conditions, besides the regions with considerable degree of environmental degradation, Poland retained, and it still has had its vast **areas with rich biological diversity**, that has distinguished it positively among both the members of the European Union, and the candidate countries. In Poland, there are natural objects that are unique on European scale, such as the Białowieża Primeval Forests, the Biebrza River Marshes, the Bieszczady Mountains, the Western Polesie Plain, and the natural lakeland ecosystems in the North Eastern territory, called the Green Lungs of Poland. In Poland, there are 22 National Parks which are recognised by the World Conservation Union (IUCN); there is over 28% of national territory area covered with forests inhabited by plant and animal species already extinct in the developed Europe. Rather rarely found in the European countries the species diversity and their relatively favourable population condition can be found in Poland also in open habitats, in the areas of agricultural use, and on non-agricultural land that often preserved its semi-natural condition.

On the basis of premises outlined in points 2-6 above, the „National Environmental Policy" was elaborated by the Polish Government in 1990 on the eve of transformation period, and further approved by the Polish Parliament in 1991. That document, despite its laconic and sometimes declarative nature, played very stimulating role *vis * vis* all of the State administrative structures in their pro-environmental activity for the sake of the environment. It contributed essentially to raising environmental awareness of the public. Expenditure for environmental protection investments in Poland has grown regularly since 1991. While in 1991 it amounted to 0.8 billion USD (about 0.5 billion USD in 1988, i.e. in the last year before the political transformation processes begun), in 1998 it grew up to USD 2.8 billion (i.e. 1.6% of GDP). This factor, as well as the conse-

quence in implementing legal and economic mechanisms of environmental policy, and the growth in environmental awareness of the public resulted in both **the considerable reduction of pressure on the environment and the improvement in the state of the environment**. That included, *inter alia*, reduction in 1988-1997 of particulate matter emission by 57%, sulphur compound emission by 48%, and nitrogen compound emission by 28%. As a result, air pollution has particularly decreased in industrialised areas. The volume of untreated sewage discharged into rivers fell in 1988-1998 by 70%, which resulted in river-water quality improvement, particularly in terms of physical and chemical indicators. Waste management, particularly industrial waste, has become more and more rational. In the first transformation period, it was perceivable economic recession that contributed considerably to the improvement in the state of the environment however, since 1993, this improvement has taken place with continuous high economic growth rate, which meant reduction in pollutant quantity per GDP unit. During the period in question, i.e. in 1988-1988 decade, the surface of protected areas grew twofold, including twofold growth in landscape park areas, and over 1.8 times growth in the total area of the national parks and nature reserves. The improvement in environmental condition in Poland has contributed to both the comfort of the public and the betterPoland's image on international fora. Now, after almost 10 years of continuous implementation of the National Environmental Policyone could state, that the implementation of this policy was unquestionably efficient, whereas the relevant documents approved by the Government and by the Parliament **met their objectives**. Nowadays, on the eve of the 21st century, we have to deal with social and economic situation in Poland that is totally different, than that at the beginning of the nineties. We got off economic recession period and we entered the period of stable and intensive growth. The privatisation process within the national economy has advanced considerably. The in-depth State reform towards the expansion of self-governance was carried out. Poland became the member to the Council of Europe, who is the guarantor of the compliance with high requirements in the sphere of human rights. It became also the member to NATO, who is the guarantor of Poland's sovereignty. Poland also became the member to exclusive economic organisation - OECD, which has confirmed the justified grounds for Poland's ambition to joint the group of highly developed states. In 1991, the European Treaty was signed which established the association between the Republic of Poland and the European Communities and their Member States. The negotiations towards Poland's membership the European Union are considerably advanced now, and the approximation process on the way to the membership has been outlined and defined in the „National Programme for the Preparation to Membership in the European Union". Poland entered a number of international conventions and agreements in the field of environmental protection, both global and regional ones. It has developed the co-operation in this field with many international, intergovernmental, governmental and non-governmental organisations. It also concluded numerous bilateral agreements with its neighbouring countries and with other countries, concerning the issues in question. These facts, social and political in their nature, have brought about some other views towards the National Environmental Policy, and to harmonise it with new requirements resulting from various internal and external conditions that are different than those of 1990-1991.

Despite the positive effects which were obtained as a result of implementing the first National Environmental Policy, the indicators of both the natural resource use and the state of the environment in Poland, either per capitaor related to the national revenue and to the surface areas endangered, still continue to be perceivably worse, than those in highly developed states of Western Europe and North America. However, on the other hand, Poland is characterised by considerable forest ar-

eas, by not excessively intensive agriculture and forestry, and it still has considerable raw material resources and rich biodiversity. In this situation, formulation of New Environmental Policy that recognises this differentiation and current social and economic conditions, has created chance to achieve two following goals:

- **further improvement in the state of the environment** and good indicators in the scope of rational management of natural resource (low energy, material and water consumption indicators *versus* the national revenue), *inter alia*, by means of adoption and implementation of the European Union standards in the field of environmental protection; and,

- **higher economic and social benefits**, than those in numerous highly developed states, to be caused by managing rational use of significant biodiversity resources (*inter alia*, by means of development of environmentally sound tourism, and by the growth in agricultural revenue due better utilisation of possessed soil biological potential).

[1.] The major objective of New National Environmental Policy is to provide for environmental safety of the Polish society in 21st century, and to create the basis for elaboration and implementation of the national sustainable development strategy. The integration process with the European Union brings about important support to achieving major objective of this new national policy which assumes **3 phases** to attain the goals. The first phase, the implementation of short-term objectives, will take place within the period of application to the European Union membership (2000-2002, according to assumption adopted by the Government to attain the readiness to the membership in 2002); the second phase, the implementation of medium-term objectives within initial period of the European Union membership, that assumes the transition periods and the implementation of approximation programmes (2003-2010); and the third, long-term phase to be implemented in the framework of the „Strategy for Poland's Sustainable Development by 2025", that is under preparation by the Council of Ministers on the basis of the Parliamentary Resolution of 2 March 1999. The time-limits for completion of the first phase and for commencing the second phase may require some updates to be made in the future, depending upon real progress in the integration process, as related not only to Poland's activities, but also to those of the European Union.

1.2. The principles of environmental policy

[1.] The leading principle of Poland's environmental policy, on the turn of the passing century and on the eve of the future one, is, as mentioned above, the **principle of sustainable development** which has been included in the Constitution of the Republic of Poland, and which has gained its citizenship among the communities world-wide as a result of the 1992 the United Nations Conference in Rio de Janeiro. The basic assumption for sustainable development is to manage policies and activities in particular in economic sectors and social life, so as to preserve environmental resources and values in the condition, that secures sustainable, without any harm, opportunities to use them, while the sustainability of natural processes and natural biodiversity performance is

secured on landscape, ecosystem, species and gene level. The essence of sustainable development is an equal treatment of social, economic and ecological reasons, which means the necessity to integrate environmental protection issues in policies within particular economy sectors. When implementing the National Environmental Policy, the principle of sustainable development should be supplemented with a set of auxiliary and concretising principles that have been implemented in developed democracies. The **precautionary principle**, that is applied commonly in environmental policies of developed countries, provides, that emerging problems should be solved on their „safe side", i.e., that adequate responses to potential environmental threats should be undertaken as early as at the moment when justified likelihood appears, calling for solution of the problem in question, and not as late as its absolute scientific evidence has been presented. This allows to avoid desistance resulting from time-consuming research, lacking resources, or conservative behaviour of individuals or institutions concerned. Related to the above is the **principle of high level of environmental protection,** which assumes that the application of both the principle of prevention and the precautionary principle should be focused on high level of environmental protection that is safe for human health. The **principle of integration of environmental policy into sectoral policies** results from constitutional principle of sustainable development and it effects in the principles of prevention mentioned below (including the idea of pollutant control at source), the precautionary principle, and the principle of high level of environmental protection. In practice it means having regard in sectoral policies to the environmental objectives on the level that equals the economic and social objectives. Important condition to makeactivities towards compatible with sustainable development is to adopt the **principle of equal access to the natural environment**, that is considered in the following categories:

- *inter-generation equity* - i.e., satisfying material and civilisation needs of the present generation with creation and retaining at the same time the conditions for satisfying the needs of future generations;

- *inter-regional and inter-group equity* - i.e., satisfying material and civilisation needs of societies, social groups and individuals in the framework of fair access to limited environmental resources and values, with equal treatment of general social needs and the needs of local communities and individuals;

- *balancing chances between the Man and the nature*, by means of securing healthy and safe functioning (in physical, psychical, social and economic sense) of humans, with retaining the sustainability of the basic natural processes, including continuous conservation of biodiversity.

The above principles should result in stimulation of the following processes in the framework of New National Environmental Policy:

- enhancement and strengthening opportunities to reproduction of renewable resources, and to revitalisation and re-naturalisation of degraded ecosystems;

- rational use of non-renewable resources and activities towards their replacement with substitutes available;

- gradual elimination from use of hazardous and toxic substances (and also in this case replacing them with substitutes which are less environmentally harmful);

- limiting the scale of environmental impact from economic activity and non-exceeding the limits of environmental resistance;

- enhancement of operational security of processes using hazardous materials, and limitation of the occurrence of and the effects on the environment emergency and accidental situations;

- continuous protection and reproduction, in a scope possible, of biological diversity on landscape, ecosystem, species and gene levels;

- creation of conditions for fair competition between economic entities in the sphere of their access to limited environmental resources, and to a possibility to discharge pollutants;

- improvement in environmental decision making processes, particularly on local level, including enhencement of public participation in these processes;

- providing environmental safety comfort for individuals and social groups (creation of favourable conditions for physical, psychical and social health, including the means of promoting local links).

[1.] When constructing and implementing the environmental policy measures, the **principle of regionalisation** will be applied which means, *inter alia*:

1. enhancement of territorial self-governments' and the voivodes' powers in the sphere of setting out ecological regional fees, standards, levies and requirements for economic entities;

- regionalisation of country-wide tools for environmental policy in relation to three following area types:

  - the areas which have been heavily transformed or degraded, or those which are endangered by degradation,

  - the areas of high natural values (with prevailing protective, scientific, and recreational functions, and those with significant role of forestry and organic farming),

  - the intermediate areas (with prevailing intensive agriculture and moderately developed industry, mostly processing industry);

- co-ordination of regional policy with regional ecosystems in Europe (the Baltic Sea and coastal zones, mountain and highland areas, river-valleys and wetland areas, particularly in boundary zones).

[1.] The **principle of socialisation** of environmental policy will be implemented by means of establishing institutional, legal and material conditions for participation by the public, social groups and non-governmental organisations in creating sustainable development model, with simultaneous strengthening of environmental education, awareness and sensitivity, and further developing environmentally sound behavioural ethics. This process will be supported by the use of mechanisms and recommendations resulting from the Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters.

[1.] In relation to economic transformation in Poland towards market economy, the **'polluter pays' principle** will be strengthened within environmental protection policy. This will mean, that full responsibility, including material responsibility, for any pollution effects and for posing any other environmental hazards, is to be the polluter's burden, i.e. it will be incurred by entities, who have taken use of environmental resources. This principle will also relate to impact caused by consumption processes, particularly in situation, when the consumer has the opportunity to choose less environmentally hazardous consumption goods. The instruments to enforce the implementation of this principle will be modified, so as to achieve in the future the state, when:

- implementation of protective undertakings (e.g. change in technology, utilisation of energy carriers and raw materials, and constructing purification facilities) will be enforced on enterprises with legal measures in form of bans, legally binding emission standards, licensing requirements, etc.to such extent as necessary, to achieve safe environmental conditionimposed either by international or national law;

- environmental hazards resulting from placing environmentally hazardous substances and products on the market (i.e. endangering human health and the nature of ecosystem, species and gene levels) and taking use of them will be minimised by means of legal measures (bans on their production and use, and limitation of their use) or by economic mechanisms (product fees, environmental deposits, environmental insurance);

- fees for using the environment will continue to apply to such extent as necessary, in order to achieve ecological and economic effects required.

[1.] The major environmental hazards in Poland are still too large pollutant emissions, excessive concentration of pollutants in ambient air and intensity of other environmental pressures i.e. noise andradiation. The strategy to counteract this situation will be based on the **principle of prevention** which assumes, that counteracting negative environmental impact should be commenced in the project planning and implementation phases on the basis of current state of art, procedures implemented for environmental impact assessment, and monitoring the projects under implementation. That means, that when selecting preventive measures and methods for mitigating impact

from definite processes or occurrences, as well as when allocating available environmental protection resources, the preference will be directed to such activities which are higher in the following hierarchy:

- *preventing air emissions* and other hazards at source i.e. transforming the production and consumption model towards reduction of environmental pressure, in particular by means of applying best available technique (BAT);

- *recycling*, i.e. closed circulation of materials and raw materials, energy, water, as well as raw material recovery from sewage and wastes, and reutilisation of wastes for various economic purposes instead of their storage;

- *integrated approach* to prevention and pollutant control ‘ in accordance with requirements included in the Council Directive 96/61/EC on integrated pollution prevention and control (IPPC Directive);

- *introduction of environmentally sound management* of production processes and services, that consists of regular identification, and further consequent implementation of environmental objectives leading to limitation of environmental impact and using environmental resources proportionally to production volume, in accordance with the world-wide and European requirements in this regard, as expressed, *inter alia*, in ISO 14000 and EMAS standards, cleaner production programmes, and Responsible Care, etc.

[1.] The growing importance in environmental policy of highly developed states gains the **principle of applying the best available technique** (BAT) not entailing excessive costs. Implementing this principle should be managed by means of legal instruments and through other activity measures (e.g. voluntary agreements, recommendations, development of environmental management systems).

[1.] The **principle of subsidiarity**, that highly developed states are using, results from the European Union Treaty and means, that the European Union shall commence the activities which do not fall within its competence only in case, when the objectives of proposed activities could not be achieved by the Member State. It will mean in the Polish environmental policy, that a portion of competence is to be passed on to appropriate regional or local level (Provinces, Counties, the Communities), so as the objective could be achieved on the lowest possible level, where it could be solved more effectively and efficiently.

[1.] Important for implementation of the Polish environmental policy objectives is, widely used in the European Union, the **principle of security clauses** which has enabled the Member States to apply when appropriate more stringent requirements when compared with those included in the Community environmental law. Application of this principle will allow to implement the aforementioned principle of regionalisation, and to apply adequate legal and economic instruments

in heavily transformed and degraded areas. This principle has been so far to some extent applied within environmental management practice in Poland, too (e.g. in form of adoption, following the example of Austria or Germany, of emission standards for certain hazardous substances having not emission standards set in the EU regulations).

[1.] The **principle of environmental effectiveness and economic efficiency** applies to making selection of planned environmental protection investment projects (or in wider sense - for undertakings which require financial outlays), and consequently in the course of their implementation and on their completion - to the assessment of achieved results. In practice, it means the need to minimise financial outlay per unit of effect achieved.

1.3. General objectives of environmental policy

[1.] The **basic objective** of New National Environmental Policy is to provide for the national environmental safety (of the population, social infrastructure, and natural resources), while assuming, that the strategy for Poland's sustainable development will allow for implementation of such development model which will provide for effective regulation and reglamentation of the use of the environment, whose type and scale, when pursued by all the users, do not pose any hazard to natural resource quality and sustainability. The progress in attaining the environmental policy goals will be measurable with selected indicators, the most important of which are presented in Chapter 6.4.

[1.] The **areas of interest** for New National Environmental Policy are the following:

A. The issues of strategic nature:

1. influencing such development of macro-economic policies (fiscal, trade, monetary, and credit policies) and macro-economic indicators, so that they favour the approximation of the national development to sustainable development model;

- harmonising sectoral policies with the aim of sustainable management and the protection of natural resources (in particular, water resources, extraction of mineral raw materials, land surface and soil resources, air, space, and agricultural and forestry products), and implementing environmentally sound production patterns in all economic sectors (modern, resource-saving and waste-free technologies, and environmentally sound management and organisational systems);

- improving environmental quality within all the environment components (air, water, soil, ecosystems, species and their natural habitats, climate, landscape) and in all of the specific areas throughout the national territory (cities and human settlements, including in particular degraded areas, agricultural areas, areas of high biodiversity, coastal zone, forest and marsh

areas, river-valleys, mountain and highland areas, marginal sea, territorial sea, border zones); besides the further reduction of pollutant emission, the lowering of their impact, and the reduction of natural resource use; the indicators of this improvement will be the growth in biodiversity, the improvement in ecosystem performance, the re-naturalisation, within its possible and justified scope, of forests, watercourses and wetlands, as well as the improvement in aesthetic features of landscape and of the closest humans' environment in their dwelling sites;

- limitation of consumption pressure on the environment by means of developing pro-environmental consumption patterns (the rationalisation of consumption scale and the preference for environmentally sound products and services), as well as developing pro-ecological value system in the spirit of the principle of sustainable development;

- providing the public access to environmental information, to the participation in decision making processes, and to judicial procedures in matters concerning the environment;

- securing the compliance of the Polish environmental policy with the direction of and the scope for activities as adopted in the European Union environmental policy, and indication of methods and means necessary to achieve the conditions for the membership;

- promoting sustainable development in international relations by means of fulfilling Poland's obligations assumed in the framework of environmental conventions and multilateral and bilateral agreements and understandings in this field, accessing new Conventions which are important for the environment and for the nature in Poland, as well as promoting the co-operation with the neighbouring States and with the other countries for jointly solving transboundary problems, particularly in the field of abatement of reciprocal pollutant flows, and in building preventive and warning systems, and also rendering assistance to the neighbours and to the other Central and East European Countries in solving their problems in the field of environmental protection in a form of exporting Polish technical and scientific ideas.

B. The issues of tactical (implementation) nature:

- improving legal, administrative and economic mechanisms for regulation of using the environment;

- improving environmental management structures on all the levels with particular regard to division of competencies between new governmental and self-governmental administrative structures;

- promoting the principles for and the systems of environmental management;

- negotiating with the European Union the issue of necessary transition periods (i.e. the approximation periods) concerning the fulfilment by Poland of certain EU requirements in the field of the environment, and those pertaining to type and scale of assistance which could be granted to Poland by the European Union in this regard, in particular, financial assistance.

[1.] General **short-term objectives** shall include, *inter alia*:

- reduction of adverse impact on human health and the environment from the so called „hot spots" which primarily include, a part of the most heavily industrialised and urbanised areas whereare located the large point sources of surface water pollution as reported in the Baltic Programme andthe industrial plants from the „List of 80" i.e. the largest polluters in Poland, the areas abandoned by the former Soviet Army, and the existing for long and in part yet not sufficiently examined, the disposal sites for pesticides and for the other hazardous substances and wastes; reduction of the „hot spots" number;

- full implementation of the European Treaty establishing the association between the Republic of Poland and the European Communities and their Member States, and of the „National Programme for the Preparation to Membership in the European Union", and indispensable in the framework of the accession process the harmonisation of legal regulations with those which are mandatory in the Union, and the reform in managing environmental protection mechanisms, harmonising them with requirements relating to accession to the European Union - all of these activities having been considered as the main „driving wheel" to enhance effectiveness of the National Environmental Policy implementation, on one hand, and as necessary factor conditioning the assumed achievement of readiness for Poland's accession to the European Union by the end of 2002, on the other hand;

- successive implementation of legal solutions to be adopted in 2000-2002, which aim at transposing the requirements of environmental law of the European Union;

- commencing activities for the sake of full integration of environmental policy objectives in the objectives of both the sectoral policies and the development programmes for particular sectors;

- establishment of legal and organisational conditions in Poland to implement the international environmental conventions;

- full implementation of the State management reform within all the elements relating to environmental protection, in particular on the county and the provincial levels, and in relevant units of the non-coupled administration;

- improvement in environmental emergency response system and the expansion of the system for ecological rescue and removal of effects from such emergencies;

- initiating wide-scope introduction into implementation of the National Environmental Policy of modern, effective mechanisms, methods and legal, economic, financial and planning procedures in managerial domain, whose full implementation will be realised in medium-term perspective (some more details are outlined in Chapter 5, that is dedicated to the tools and instruments of environmental policy).

[1.] The medium-term objectives of general nature constitute an essential improvement in the state of the environment and in practical implementation of environmental regulations and standards pursued by the European Union, provisions of international, regional and global Conventions, provisions of bilateral Agreements with the neighbouring countries, as well as the further institutional strengthening in order to enable effective implementation of prospective strategy for national sustainable development. The implementation of modern mechanisms, methods and procedures for realisation of environmental policy, as initiated in the framework of short-term objectives, shall be pursued just during this time-period, including also the implementation of environmental objectives as incorporated in sectoral policies and programmes. The short-term objectives are presented in detail in Chapters 3 and 4.

[1.] The long-term objectives relate to prospective vision of the national sustainable, social and economic development which the basic elements include:

- achievement of the establishment of the Constitutional principle of sustainable development as the permanent basis for economic and social policy of the State, for self-governmental authorities, and for social institutions and the public, by means of both the adequate political, legal and administrative, and organisational activities, and the active environmental education in favour of developing pro-ecological attitudes and behaviours;

- consolidation of the principle of effective State control over strategic natural resources (waters, forests, mineral raw materials);

- full integration of environmental policy into economic sectoral policies, physical management and regional policy, and consumer policy, by means of adequate modification of existing sectoral programmes, or by developing new programmes to be fully harmonised with the strategy for the national sustainable development, now under preparation;

- managing in-depth transformation of the production and consumption model towards the improvement in energy and raw-material efficiency, and towards minimising negative impact on human health and the environment from any form of business activity and from civilisation development;

- elaboration of response mechanisms to new challenges in the field of environmental protection as result from the applicationof new techniques and technologies;

- relinquishment, based on the precautionary principle, of certain scientific achievements (e.g. of certain biotechnology) which might have caused negative environmental impacts;

- maximum possible reconstruction of damages which resulted within the natural environment, and establishment of security system against their reiteration (e.g. in result of deficiencies in market mechanisms);

- maintenance and conservation of the existing ecosystems (including natural animal and plant habitats) having high natural and cultural values, as well as of other areas of significant ecological importance;

- preserving relevant areas, particularly the areas of high tourism and recreational values, as the basis for effective recreation of the population;

- re-naturalisation of areas which are ecologically valuable;

- effective growth in production in agricultural and forestry sectors by means of making better use of biological potential of agricultural and forestry production space, and by means of upgrading technological and ecological and health related product quality, while counteracting the excessive production process intensity and the intensity of applied cultivation and breeding methods which could endanger preservation of biodiversity.

[1.] The detailed concretised short-, medium- and long-term objectives which are described in detail in Chapters 2-5, as well as the implementation programmes described in Chapter 6, will be also directed towards solving some of environmental policy dilemmas, such as for example:

- how to develop sustainable consumption model in the conditions of market game and socially accepted strains for material goods and prefered consumption life-style;

- how to develop sustainable transport model in situation of rapid mass motorization growth in Poland, given the instant decrease in railway and public transport share of cargo haulage and passenger traffic

- what to do with the flood of expendable products and single-trip containers, when the re-use packages and the reusable raw materials have been step by step dislodged from use;

- how to develop sustainable agriculture and rural areas model given the high pressure on intensive agricultural production and the need for civilisation advancing of rural areas;

- how the rapid urbanisation and industrialisation of sub-urban areas (the „spillage" of cities) could be hampered in the conditions of free market game, that contributes to degradation of natural and cultural space;

- how the large, state-owned industrial plants (mines, ironworks, power plants, petrochemical plants, etc.) could be incorporated in the model of sustainable development, which are still posing a serious danger to the environment, and where often due to political reasons, the 'polluter pays' principle cannot be applied;

- how to promote, particularly among small and medium sized enterprises, the ideas of pro-ecological management methods for services and production, as rational, complementary and economic alternative to administrative execution of compliance with formal and legal environmental protection requirements.

1.4. Ecologisation of sectoral policies

[1.] The implementation of the main objective of New National Environmental Policy, that is to provide for environmental safety of the population, social infrastructure and natural resources, requires the strategies and policies in particular sectors and the management of social infrastructure compatible with the principle of sustainable national development. This means, that ecologisation of sectoral policies should be pursued in a form of approach to formulation of the goals of these strategies and policies, and their executive programmes in line with the objectives of environmental policy. That concerns the sectors of energy, industry, transport, and also the municipal management and building sector, as well as agriculture, forestry, tourism and the other activity fields that result in pressure on the environment in a form of direct or indirect use of their resources, or are the sources of environmental pollution, or/and of any other unfavourable physical impacts. This is the environmental impact assessment of plans and programmes which is the instrument supporting the best the ecologisation of sectoral policies.

[1.] Detailed activity objectives and directions for ecologisation of sectoral policies will be included in the „Strategy for Poland's Sustainable Development by 2025", that is to be drawn-up in 2000, in accordance with the Parliamentary Resolution of 1999. They should fall within the framework background assumptions, which are presented in point 32, below.

[1.] Among the methods for implementation of the National Environmental Policy the priority will be assigned to the so called **good managerial practices and environmental management systems**, which allow for matching economic effects with environmental ones, in particular:

1. in **industry and energy** sectors - implementation of cleaner production methods, improvement in energy efficiency, as well as use of alternative raw materials and alternative and renewable energy sources; water consumption reduction in production processes, and relinquishment of groundwater use for industrial purposes (with few, strictly regulated exemptions); improvement in planning processes with regard to environmental impact assessment, improvement in managerial processes and control of production processes (licensing systems, evaluation of environmental protection costs in industrial activity, application of BAT on installations which pose the largest environmental hazard, and others), growth in manufacturing products which comply with environmental standards (eco-labelling), growth in the number of entities participating in voluntary system of enterprise environmental management and to environmental audits, implementation of policies which are oriented towards so called product life-cycle in order to limit the quantity of waste generated, limitation of hazard from serious industrial accidents, improvement in environmentally safe management of various categories of waste

generated, support to pro-environmental activities carried out by small and medium sized enterprises, improvement in and development of sustainable development policies by means of partnership between governmental administration authorities and industrial enterprises (with regard to development of innovative activity, simulation of conditions developing demand and supply), limitation of noise level from road and non-road transportation means; stimulation of development of the national environmental protection industry;

- in **transportation** sector - controlling demand for transportation (by means of spatial management, behavioural patterns reducing the transportation needs within the national economy), wide-spread introduction of „cleaner" fuels (including bio-fuels) and „cleaner" vehicles (less air polluting and less-noisy ones), as well as non-engine vehicles (e.g. bicycles in individual, personal transport), with simultaneous improvement in their operational and economic parameters; rationalisation of haulage, thanks to which, by means of changes in transport system (e.g. through development of railway haulage of containers, introduction of railway transit to limit automotive transit transport, and development of public transport in cities) the abatement of haulage costs as well as reduction of air pollution can be achieved; construction of ring roads around cities; introduction of pro-environmental tariff system;

- in **agricultural** sector - applying the so called good agricultural practices which provide for better use of biological potential of soil, while reducing negative environmental impact from both the fertilisers and the plant protection agents; establishment of foodstuff certification system; supporting such forms of and methods for managing agricultural production space which are in favour of retaining of and growth in biodiversity (including introduction of organic farming on scale larger than so far, especially in the areas under protection which are particularly naturally valuable, and within close vicinity of these areas); land reclamation and supporting programmes for taking use of land which is heavily polluted by toxic substances in order to produce vegetation to be appropriated for non-consumption purposes (first of all, industrial and energy plants), and for its afforestation; introduction of mechanisms encouraging afforestation of poor-soil land, land sensitive to erosion, in the vicinity of watercourses and water reservoirs;

- in **forestry** sector - growth in the national forestage and expansion of forest areas re-naturalisation, including re-naturalisation of wetlands and naturally valuable sites situated in forest areas; improvement in methods of applying sustainable forest management; improvement in forest health condition; fire control;

- in **municipal management and building** sector - modernisation of heating systems with the use of local renewable energy sources, thermal modernisation of building resources, modernisation of heating and water supply systems, rationalisation of water use, refuse segregation and raw material recovery, utilisation of waste heat, and applying a number of the other modern solutions in technical infrastructure of cities and settlements, that will not only reduce environmental pressure from this infrastructure, but which also limit its operational costs; landscape protection when planning both the urban, sub-urban and rural settlements, and the production facilities in zones under urbanisation;

- in **physical management** sector - environmentally sound physical planning in settlements and in different activity fields, as well as securing the protection of natural, landscape and cultural values, and of ecological functions in particular areas by means of including the conditions of their preservation in spatial management plans and in the other plans, decisions, programmes, assessments, studies and expertise relating to such plans;

- in **tourism** sector - reduction of traffic intensity in localities and in the mostly visited areas, expansion of tourism base and enhancement of the scope for tourism promotion of regions and sites which are less popular so far, as well as the attractive ones, upgrading regularity of annual tourism movement (in order to counteract its excessive peaks during traditional holiday periods), effective control of inward and outward traffic in tourism areas (and also limitation of vehicle movement within theses areas), and reduction of individual vehicle use scale for tourism purposes by means of switching to collective transport, rigorous control and enforcement of binding regulations, procedures and standards concerning spatial management in tourism areas, implementation of building investments, and environmental protection, establishment of buffer-zones surrounding sensitive areas, supporting differentiated forms of tourism (besides the mass stationary tourism, also the environment-friendly hiking, agro-tourism, educational and natural tourism, etc.), improvement in the quality of tourism services (including the improvement in furnishing tourism facilities with necessary infrastructure, e.g. regarding energy supply), as well as developing right, pro-ecological attitudes and behaviours among tourists and tourism entrepreneurs;

- in **health protection** sector - implementation of disease classification and identification system in relation to disease complexes which are conditional upon adverse impact from environmental factors; introduction of modern systems for medical hazardous waste management (segregation, treatment, monitoring and control);

- in **trade** sector - upgrading the information system on pro-environmental features of products by means of developing an eco-labelling system, and by prior promoting the goods and/or products with relevant accompanied information concerning environmental hazard of their manufacturing and use (the rate of power and water consumption, etc.);

- in **the national defence** sector - implementation of organisational (adequate services at military units and on military testing grounds) and technical (protective facilities, rescue equipment, and control-measurement equipment) solutions providing effective control and counteracting impact from the hazardous materials and substances applied by military troops, as well as the residues and packaging of these materials and substances (chemicals, explosives, oil derivative substances and others), and provision of adequate fire control in forest areas in use by military troops.

[1.] Thesocial and economic indicators and the indicators of the state of the environment, as well as the indicators of change in environmental pressurewill be those to control and assessthe effectiveness of the national strategy for sustainable development and of the National Environmental Policy, in relation to ecologisation of sectoral policies. These indicators will be applied on the

national scale, as well as in particular regions, and in relation to particular economy sectors, and in the areas of social infrastructure management, and also in relation to particular activity fields.

1.5. New challenges

[1.] On the eve of 21st century, the National Environmental Policy must match all the challenges that emerge from new political, social and economic situation in Poland, as well as those resulting from the current scientific and technical progress worldwide and in Poland. The latter group includes first of all the **need to match the European Union requirements** in relation to the environment, given the efforts being made towards the accession to this organisation, as well as counteracting environmental hazards and rational use of the natural resources, which are connected with **proprietary transformation processes**. The former group includes first the issues of chemical safety relating to rapid growth in the assortment of chemical substances and preparations produced and utilised, next those related to biological safety in light of the rapid growth in biotechnology and the application of genetically modified organisms (GMO), and finally the issues of **the public safety**, connected with the need for further development of environmental awareness of wide circles of the public, and the increase in their active participation in specific activities for protecting the environment, including the improvement ofeffectiveness of such activities. In certain sense, the challenge, also in terms of environmental protection is the implementation of **Information Technology** into social and economic life, that will require continuous modernisation of environmental management systems, hence it will require adequate educational efforts and financing.

[1.] The **short-term objectives**, relating to the **accession process to the European Union**, include full implementation of the **European Treaty establishing the association between the Republic of Poland and the European Communities and their Member States** which sets out 10-year period (1994-2004) for the harmonisation of the Polish environmental law with the requirements of the European Union, as well as the implementation of adopted in 1998 the **„National Programme for the Preparation to Membership in the European Union"** which established in detail the tasks for pre-accession period with intention to achieving Poland's readiness to access the Union at the end of 2002. Implementation of the provisions included in both documents is also an important „driving wheel" enhancing the implementation effectiveness of the National Environmental Policy. The most difficult undertakings among 15 major priorities included in the „National Programme for the Preparation to Membership in the European Union", and which constitute a serious challenge for environmental protection practices in Poland are in the field of:

- **water quality improvement** - implementation of requirements concerning total elimination from sewage of those hazardous substances which endanger human life and health, as well as achieving safe emission indicators for particular substances which endanger aquatic ecosystems, and indirectly also human life and health;

- **waste management** - establishment of a system for safe liquidation or disposal of wastes and residues containing the most hazardous substances which endanger human life and health

(pesticides, PCBs, mercury, cadmium and some others); establishment of a system for gradual elimination of these substances from their use as raw materials and components of products placed on market, and physical liquidation of their reserves and permanent storage sites;

- **air quality** - elimination of certain hazardous substances emissions which impose hazard to human life and health or achievement of their safe emission standards (heavy metals and persistent organic pollutants, in particular polycyclic aromatic hydrocarbons, dioxins and furans);

- **biological safety** - establishment of efficient control system over application of genetically modified organisms and elimination of the likelihood of their penetration into the environment.

The challenge in all the above mentioned issues is to establish a comprehensive system of legal regulations, control mechanisms, institutional solutions and investment programmes.

[1.] The **medium-term objectives** in terms of integration process with the European Union include the achievement of full conformity with all the transitional adjustment periods agreed during negotiation process, and timely implementation of tasks in the scope of achievement of the European Union environmental standards, implementation of required tools and instruments in the field of both the environmental protection management and the harmonisation of environmental protection policy and strategy with the Sixth Environmental Action Programme, currently in its preparation phase, once it is adopted.

[1.] Efficient counteracting possible environmental hazards relating to **proprietary transformation processes** will require first of all the implementation of procedure for carrying out obligatory environmental reviews of enterprises under privatisation not only in relation to capital privatisation, as it is the case at present, but in relation to any other functioning privatisation and commercialisation forms. Not less important will be also the adequate, balanced treatment of the needs relating to environmental protection in activities which are likely to impact the changes in so far existing proprietary structure of natural resources, first of all in the context of potential enhancement of the scope for private ownership of forests and waters. In case of commencing such type activities it should be considered appropriate to carry out strategic assessment of their environmental impact, as well as to provide legal and organisational opportunities for controlling by the State, who is responsible for security of all of its citizens, the method for managing the privatised natural resources. Essential question, from the point of view of securing environmental protection interests in the framework of proprietary transformation within the Polish economy, will be also an unanimous decision upon the method for solving the problem of the so called old ecological damages, by means of legally sanctioned indication of the way, with regard to all possible individual differentiation, the responsibilities are to be set out in this regard, as well as the costs related, that will be the burden on both the public institutions and the public itself, as well as on the present and new proprietors.

[1.] Provision of **chemical safety** becomes the more and more important issue of environmental policy, since in production, processing, distribution, storage and utilisation processes of chemical substances and preparations, in particular those included in the category of „hazardous substances" the following, environmentally unfavourable, and also uncontrolled processes might occur:

- pollutant emission into the atmosphere;
- pollutant discharges into sewege system, and consequently into surface waters and the Baltic Sea;
- land and groundwater pollution;
- discharging chemical substances into the environment in form of wastes;
- releasing chemical substances into the environment as a result of accidents, catastrophes (fires, explosions, unsealed industrial installations, floods, etc.);
- direct impact from substances on humans in the process of applying preparations and products containing hazardous substances.

It is therefore necessary, while based on the precautionary principle, to undertake needed prophylactic actions, including prohibitions and limitations concerning manufacturing and use, mandatory notification or licensing the activity, ecological labelling, monitoring, risk assessments and security reports, and the other procedures which should lead to either elimination or minimising hazards from chemical substances to human life and health and the environment.

[1.] Provision of **environmental safety**, in the context of biotechnological development and application of genetically modified organisms (GMO), is a relatively new problem in environmental protection, however turbulent development of knowledge and technology in this field, as well as related potential environmental hazards, have caused the concern of international community. The European Union, OECD, UNEP and other international organisations prepared a number of guidelines and international legal acts relating to these questions. In Poland, the problem of GMO application and the protection of the environment against possible release of GMO, has not yet been regulated to sufficient degree. Consequently, the **short-term objectives** of the National Environmental Policy should include expansion of legal regulation system in this regard, establishment of institutional basis for carrying out effective supervision and control, regulation of environmental emergency problems caused by release of GMO, and elaboration on closed use of GMO and preparing the principles for safe work with GMO, as well as regulating the problem of international and domestic turnover of products containing GMO, or those manufactured with participation of GMO. A solution in this sphere should be harmonised with requirements included in the Council Directive 90/219/EEC of 20 April 1990 on Controlled Use of Genetically Modified Organisms, and the Council Directive 90/220/EEC of 23 April 1990 on Intended Release of Genetically Modified Organisms into the Environment, and in the Protocol on Biological Security to the Convention on Biological Diversity.

[1.] Strengthening and development of the **public safety** in the context of implementation of the objectives of the National Environmental Policy, i.e. the establishment of favourable conditions for development of the citizens' attitudes towards the environment and effective involvement of the public in environmental protection matters, will require, first of all, the further development of environmental education, to be pursued within integrated, inter-sectoral context, in accordance with the „National Strategy for Environmental Education - Through Education Towards Sustainable Development", enhancement of and improvement in public access to information and effective enforcement of law protecting the interests of and opportunities for citizens' activities, also in the field of environmental protection.

[1.] Intensive development and dissemination of **Information Technology** result not only in the necessity to adequate furnishing with Information Technology equipment and education of human resources for environmental protection, but also in the necessity to change in the style of and methods of their work. Development of networking systems, the use of electronic mail and Internet, creation and archiving of documents in electronic format, all will be in favour of more effective information circulation and transparency. This should be reflected in legal regulations and in practices of the public administration performance, in particular in relation to question of the public access to environmental information and to public consultations.

CHAPTER 2

ENVIRONMENTAL POLICY OBJECTIVES RELATED TO THE RATIONAL USE OF NATURAL RESOURCES

2.1. Rationalisation of Water Consumption

42. Activities towards rationalisation of water use should adopt as starting point quantitative and qualitative potential of water ecosystems. They should encompass all sectors of the economy that use water resources, including first of all:

- industry,
- municipal sector,
- agriculture.

Adoption of best available technologies in industrial production and best available agricultural practices should lead to a reduction in demand for water as well as in pollution load discharged into receivers.

43. Ban of non-justified use of ground waters for industrial purposes will be necessary in the nearest future. Rationalisation of water consumption in households should be directed towards the reduction of water waste, use of water-efficient uptake equipment and household appliances and further development of water use measuring system. Further reduction of water loss in distribution systems is also necessary.

44. The basic instruments to stimulate rationalisation of water use and volume and quality of discharged sewage should be the price for water supply and sewage collection services. The price level should reflect the real value of water, including protection of water resources, in the aspect of self-financing of enterprises providing services in water supply and sewage collection (service fee) and self-financing of the water management sector (fees for special use of water resources). When sewage is discharged into sewage system, fee level should be related to pollution-at-source control and dependant on the pollution load discharged.

45. To implement the basic principles specified above, it is foreseen to:

(a) *in a short-term perspective* (by 2002):

- organise a control system of water-intensity of production processes. This will be done through introduction of water-intensity indicators (calculated per production unit or production value) into the national reporting system, the national environmental monitoring system, in county and provincial programmes for sustainable development and environment protection (as control indicators of their implementation) and into sectoral strategies. Execution of this task will also be done through the establishment of a centre / agency or through assigning of tasks related to water use control to existing institutions;

(b) *in a medium-term perspective* (by 2010):

- introduce water consumption standards in the most water-intensive production sectors, based on the Best Available Technology (BAT) principle;

- eliminate the use of ground water for industrial purposes (except for food industry and some special production types) through introduction of barrier fees for the ground water intake. Use of ground water by industry could only be allowed in the regions of high ground water resources, but only in a limited time and under special supervision.

- define water consumption standards in municipal sector to stimulate water conservation and their practical application through a system of voluntary agreements between competent public administration and water and sewage enterprises or their collective representatives;

- reduce water-intensity of production by 50 per cent against the 1990 levels (calculated per GDP and industrial sales value);

(c) *in a long-term perspective* (by 2025):

- full implementation of the sustainable production and consumption concept in terms of water use for industrial, municipal and agricultural purposes; introduction of the BAT principle in water intake, purification and distribution systems; achievement of water consumption indicators not exceeding average values for OECD countries, expressed per production unit or value and per capita.

2.2. Reduction of material consumption and waste-generation

46. Reduction of material-intensity and waste-generation in production processes is one of the major objectives of the environmental policy as it is one of the ways to implement the principle of pollution prevention at source, which additionally allows to achieve economic benefits such as lower production outlays and as a consequence leads to the reduction of citizen's share in costs of the use of environmental resources and environmental protection.

47. To implement the general objective described above, the following specific objectives have been set forth:

(a) *short-term objectives* (by 2002):

- introduction of material-intensity and waste-generation indicators into the national statistics system, the national environmental monitoring system, provincial and county programmes for sustainable development and environmental protection, and into sectoral industrial strategies;

- establishment of a centre / agency or assignment to the existing institutions of the tasks related to promotion of BAT in terms of the reduction of material-intensity and waste-generation in production processes, including setting standards (such as "National Centre for BAT" based on the example of a similar European Union institution, established in Seville);

(b) *medium-term objectives* (by 2010):

- reduction in material-intensity and waste-generation of production by 50 per cent against the 1990 levels; their gradual abatement in individual production sectors to the extent ensuring that at least average OECD levels are achieved (calculated per production unit, production value, or GDP);

- wide practical implementation of voluntary agreements with the industry concerning programmes for material-intensity and waste-generation reduction in production processes. The Minister of Environment will publish lists of recommended indicators that should serve as methodical basis for agreements between national and regional authorities and economic chambers or other industrial organisations or individual production enterprises; preparation and execution of those agreements will be supported by public funding;

- cease of production and use or reduction in use of hazardous substances and materials, under regulations of the EU directives and provisions of international law (containing heavy metals, persistent organic pollutants, and substances depleting ozone layer);

- wide promotion of product life-cycle assessments (following an example of environmental impact assessment); introduction of a statutory requirement for such assessment in relation to products of high material-intensity and waste-generation and products containing environmentally hazardous substances;

(c) *long-term objectives* (by 2025):

  – full implementation of the concept of sustainable production and consumption for which the main objective is to reduce material-intensity and waste-generation of production; application of the BAT principles, prerequisite for which is a significant reduction of material-intensity and waste-generation of production and improvement of economic efficiency of production processes.

2.3. Reduction of energy consumption with the national economy and the growth in renewable energy use

48. Reduction of the national economy energy-intensity, both in terms of manufacturing processes and services and consumption, is one of the key objectives of the environmental policy. Energy-intensity of GDP production has been reduced in the period between 1990-1997

under the current environmental policy and economy restructuring (from over 2 t of oil eq/ 1000 USD of GDP to about 1.2 t). However, this indicator is about twice as high as in the OECD and EU countries (the same is true for material and raw-material consumption indicators). The basic assumptions of the national energy policy foresee further reduction of energy consumption per GDP unit related to the expected growth in energy prices, modernisation and restructuring of the economy that will stimulate energy conservation. Until the year 2010 this reduction should be about 25 per cent against the year 2000 level.

49. From the environmental policy point of view, the scale of reduction of energy consumption in the economy expected so far should be deemed unsatisfactory. This is particularly true in the context of the fact that Poland needs, on one hand, to maintain relatively high economic growth and, on the other hand, to significantly reduce emission of atmospheric pollutants (the latter being the result of the necessity to further improve the air quality and Poland's commitments resulting from already adopted or currently negotiated international agreements concerning emissions of acid-generating substances, greenhouse gases (GHG), and solid and volatile organic compounds). Two-fold reduction of energy-intensity by the year 2025 is a must. Meeting of this objective will require mechanisms that will better provide for reflection of environmental costs in energy prices, first of all through introduction of product fees on fuels, varied depending on environmental hazard created by different fuel types. It will also require, wider than so far, involvement of public institutions, businesses and citizens in activities towards introduction and promotion of highly energy-efficient technologies and products. Those may require much higher expenditure than simple organisational improvements and general management rationalisation, but in their absence the reduction of energy-intensity will not achieve the scale required and will not be sufficiently sustainable. When assessing the scale of efforts required towards further improvement in energy-intensity ratios of the economy, one will have to remember that the results possible to achieve with this improvement and with related abatement of growth of general energy consumption and production (not only the obvious results in terms of reduced use of natural resources, but also secondary effects in emission abatement) can not be compared with the results of any other solutions towards reduction of environmental impact caused by energy production sector (such as change in the energy carrier structure or construction of protective facilities). Apart from environmental effects, reduction of energy-intensity brings also significant economic benefits, especially in a long-term perspective.

50. Major activities towards further reduction of energy use per unit in all sectors of production, services and consumption should be directed into the following:

- maintenance and strengthening of, already existing, tendencies towards a change in the GDP production structure, through further restriction of the most energy-intensive heavy industry and the development of high-tech industry and services;

- wide introduction of highly energy-efficient technologies and equipment in those production and service branches whose activity will be maintained or developed (they should ensure both the reduction of energy-intensity of manufacturing processes themselves and the improvement of energy parameters of final products) as well as wide introduction of such technologies and equipment to be used in households, public institutions, and public utility buildings;

- reduction in energy losses, especially those of thermal energy, in distribution systems; improvement of energy parameters of buildings; further increase of energy production efficiency

and through this, further improvement of the relation between the amount of final energy produced and the amount of primary energy used.

51. Activities aimed at the reduction of energy-intensity must be accompanied by continued efforts directed at change of the way that the current demand for energy is met. These should primarily include change of the structure of energy carriers into further growth of electric power share in the global consumption of final energy (and reduction of energy produced directly as a result of fuel combustion), growing use of natural gas and oil in energy production (replacing coal), improvement of coal and other fuels quality, and growing use of renewable (water and wing energy, geothermal energy, solar energy and biomass energy) and waste-derived energy carriers in the production of electric power and thermal energy.

52. To meet the general objectives set out above, implementation of the following specific objectives is foreseen:

(a) *short-term objectives* (by 2002):

- introduction of energy-intensity indicators into the national statistics system, the national environmental monitoring system, provincial and county programmes for sustainable development and environmental protection and into sectoral industrial strategies;

- assignment of the tasks related to setting standards for material-intensity and waste-generation to a selected agency;

(b) *medium-term objectives* (by 2010):

- reduction of energy consumption per GDP unit by 25% against the year 2000 level;

- wide practical application of voluntary agreements with the industry concerned by the energy-efficiency programmes. The Minister of Environment will publish lists of recommended indicators presenting BATs that should serve as methodical basis for agreements between national and regional authorities and economic chambers or other industrial organisations or individual production enterprises. Preparation and execution of those agreements will be supported by public funding;

- systematic increase of public share (state budget and other funds) in implementation of energy-efficiency focused programmes.

(c) *long-term objectives* (by 2025):

- reduction of energy consumption per GDP unit by 50% against the 2000 level;

- achievement of energy consumption indicators expressed per GDP unit and per production volume in individual production sectors (expressed as production physical volume or production value) as well as energy consumption indicators in major household equipment and appliances not exceeding the average indicators in the OECD countries.

53. Implementation of environmental policy objectives related to the reduction of negative environmental impact caused by the fuel and energy supply systems will be supported by growing use of domestic renewable energy resources. The development of renewable energy w Poland should proceed in line with relevant policy of the European Union, where the share of renewable energy sources in the global fuel and energy balance is much higher than in Poland. The requirement to take into account the growing use of renewable energy sources in the social and economic policy and sectoral policies is also included in the Parliamentary resolution of the 8^{th} July 1999.

54. Growing utilisation of renewable energy sources will first and foremost facilitate achievement of the national environmental policy goals in terms of emission reduction of pollutants responsible for climatic change as well as acid-generating substances. Growth in the share of renewable energy sources in the domestic fuel and energy balance will also be a significant step towards implementation of sustainable development principle, in accordance with Art. 5 of the Polish Constitution. Utilisation of the existing renewable energy resources and growth of their potential will help to preserve non-renewable resources and will assist in activities towards improvement of the life quality and the development of many economic sectors in a way that incorporates both the economic benefits and conservation of the environment. The development of renewable energy sector will in particular:

- strengthen the energy security of the country through decentralisation of energy production, differentiation of its sources, use of its local resources and introduction of a desirable competition against existing monopolies in the energy sector;

- assist in the development of local labour markets, through the creation of jobs in equipment manufacturing, assembling and operation of renewable energy production installations and facilities;

- stimulate the development of new, state-of the-art technologies and modernisation of technical infrastructure;

- reduce environmental damage caused by extraction and combustion of fossil fuels;

- facilitate implementation of Poland's international obligations concerning the air pollutants emission reduction.

55. In order to meet by the year 2020 the standards required by the EU in relation to the participation of renewable energy in the primary energy balance, Poland will have to introduce mechanisms and solutions that will stimulate growth of interest in the use of energy from renewable sources. These can have a form of organisational, institutional, legal

and financial mechanism facilitating higher than so far involvement of public institutions, businesses and the public in promotion and implementation of new renewable energy processing technologies.

56. Main activities towards the development of renewable energy use should support and strengthen the current directions in the development of renewable energy sector through:

- wide implementation of new, state-of-the-art technologies and equipment to transfer the energy produced from renewable sources into carriers that can be used in all spheres of production, services, and consumption.

- intensive development of renewable energy sectors at regional and local levels, operating in decentralised systems oriented towards meeting regional and local needs;

- publicity and implementation of best practices in the use of energy from renewables and in technological, administrative, and financial solutions.

57. Organisational, legal and financial activities directed towards acceleration of renewable energy sector development will contribute to achieve a number of specific objectives. These are:

(a) *short-term objectives* (by 2002):

- synchronisation of the renewable energy development policy with sectoral policies through introduction of an assumption of growth in the use of renewable energy into executive programmes to the environmental policy and policies for energy, agriculture, transport, regional development and physical planning;

- development of action plans in short-, medium and long-term perspectives; collection and dissemination of information useful in the renewable energy sector development; assistance to local authorities, enterprises, non-governmental organisations and individuals in preparation of development and investment plans focused on the utilisation of renewable energy;

- increase in the use and improvement of the effectiveness of public funds (from the state budget and other sources) allocated for implementation of programmes focused on renewable energy sources development;

- strengthening of efforts aimed at obtaining of a financial support from the European Union to be used for implementation of such programmes (as part of pre-accession, and structural assistance funds, and funds specifically devoted to the support of renewable energy sector), as well as support from International Financial Institutions;

(b) *medium-term objectives* (by 2010):

- at least two-fold growth in the utilisation of energy from renewable sources against the level of 2000, which is in line with the EU objectives expressed officially in the “White Book” (COM(97)599);

- introduction of the issue of renewable energy use into provincial and county sustainable development plans, provincial, county and community energy programmes, and spatial development plans;

- achievement of a dominant role of renewable energy sources in fuel and energy balances of some counties and local communities in areas with preferable conditions for the development of renewable energy sector;

(c) *long-term objectives* (by 2025):

- renewable energy sources to become a significant item of the primary energy balances in some parts of the country (in areas with special potential for renewable energy sector development);

- renewable energy utilisation to achieve levels comparable with average indicators for the European Union countries.

2.4. Soil protection

58. Ensuring that soil resources available in Poland are used in a sustainable manner that comprises economic sustainability, especially long-term, and environmental sustainability by:

- reduction in cases when soil management applied is not fully compatible with natural characteristics of the soils in question through a prevention against situation when soils suitable for agriculture or forestry or those with potential for creating conditions for the biodiversity enrichment are taken over for other purposes, in particular for investment project of various types;

- reduction of limiting factors for optimal use of soil biological potential in agricultural, forestry or environmental management. Such factors are the results of degrading processes caused by pollution, erosion, and agro-technical mispractices (including for instance wrong drainage) in the areas prone to erosion, around watercourses and water reservoirs, etc.;

- better adaptation of the form of soil agricultural or forestry management (the choice between agriculture or forestry) and production directions and intensity factors (type of grown species, methods of cultivation or breeding) to the natural, biological potential of the soil. This should perhaps take into account a possibility for correction of the natural soil characteristics (e.g. through application of fertilisers, ideally organic, or liming) and economic efficiency conditions.

- elimination of agricultural production or suitable change in crop structure, on soils contaminated with substances hazardous for health, where the contamination levels exceed adopted standards.

59. In activities carried out under the above-described directions, the following aspects should have the key importance:

- ensuring that more intensive, high-output agricultural production will be developed primarily in the areas of higher soil quality (which provides better production profitability and are more resistant to degradation caused by intensive exploitation) and in a certain distance from the areas of high ecological value (especially those under protection). In the areas of high natural value and their immediate vicinity and in places with poorer soils, natural methods of food production will be promoted and developed, which require less technical and chemical production means and more manpower;

- growth of afforestation ratio of the so called agricultural marginal land, useless for agriculture, and watersheds;

- reduction of scale and intensity of soil erosion, both natural and anthropogenic, and its negative impact range;

- intensification of activities towards revitalisation of soils degraded as a result of various factors (including soil clean-up, reclamation and reconstruction of proper water conditions).

60. The following actions are foreseen to implement the above-specified general objectives:

(a) *short-term horizon* (by the year 2002):

- promotion of the principles of good agricultural practice, stipulated in the "Good Agricultural Practice Code" published in 1999, significant part of which is focused on the tasks related to the protection of soils;

- introduction of regulations concerning principles of sustainable use of fertilisers and their proper storage;

- elaboration of regulations concerning use of land adjacent to motorways and public roads outside towns and cities;

(b) *medium-term horizon* (by the year 2010):

- management of industrial wasteland and closed landfills of industrial and municipal waste and execution of a programme of comprehensive survey and reclamation of the so called "old landfills";

- withholding from agricultural and horticultural use of all soils over-polluted with cadmium and mercury (especially in the Upper Silesia) or their successful reclamation;

- completion of the programme of former Russian Army military grounds reclamation;

- liquidation and reclamation of old bunkers used for storage of pesticides and other toxic materials, in accordance with the principles set out in the programme for bunkers liquidation;

- elaboration and initiation of a national programme for reclamation of degraded soils in the areas under agricultural production (eroded, overgrown with bushes, etc.), with their partial allocation for forest planting and other non-agricultural purposes. Afforestation should play a significant role as a way of utilisation of those soils, while criteria and indicators for allocating land for forest planting should be in accordance with the governmental "National Programme for the Increase of Poland Forestage";

(c) *long-term horizon* (by the year 2025):

- should bring Poland to the state when the area of land reclaimed during one year is not smaller that the area of land allocated for reclamation following its previous non-agricultural use. The principle of full reimbursement of reclamation costs born by the former user will be applied.

2.5. Enrichment of forest resources and their sustainable management

61. Forests cover 28 per cent of the country area and constitute an important element of its infrastructure both in economic and environmental aspect. They are the indispensable, if not the major factor of environmental balance as well as a habitat for the majority of wild plant and animal species (75-80 per cent of the country biodiversity), as well as the main refuge of Poland's natural heritage. Preservation of forests integrity and improvement of their condition is a prerequisite for the country's environmental security, including preservation of water resources, landscape features and their functions related to recreation and health-protection.

62. Forests play, either naturally or through economic s activity, functions that can be grouped into three main categories:

- **environmental functions** (protective) that have high economic and social importance. Retention and stabilisation of water in forests reduces danger from floods and the scope of potential damage, eases periodical water deficiencies, regulates climate and improves public health conditions through air pollution reduction and preservation of the country's natural heritage;

- **productive functions**: these are not limited to the production of timber which is a renewable resource constituting a base for many sectors of the economy. Timber absorbs and accumulates atmospheric carbon thus facilitating reduction of the greenhouse effect;

- **social functions**: provision of jobs in and outside the forestry sector, place for recreation, tourism, health regeneration, as well as an object stimulating development of culture, science, environmental education.

The functions of forests can be supplemented by similar **functions of hedges and tree plantings**.

63. At present, Polish forestry is dominated by the model of sustainable use of resources. A gradual move can be observed from raw-material based management towards the development of sustainable, multi-function forest management, which includes also protection of forest biodiversity. Principles of sustainable forest development and forestry are stipulated in the "**National Forestry Policy**" adopted by the Government in April 1997. The document sets out goals and directions of forestry development, placing much emphasis on the issue of natural forests resources conservation and enlargement of forest area. **The Law on Forests** was also amended in April 1997 to take into account such objectives of sustainable forest management as:

- preservation of forest and their beneficial impact on human life and natural balance;
- protection of forests, especially those forests and forest ecosystems that have native character and forests of special value related to: preservation of biodiversity, preservation of genetic resources, preservation of landscape, protection of soils and land particularly vulnerable to pollution and damages, protection of surface and ground waters, scientific reasons;
- production of timber and other raw materials and products, based on sustainable management practices.

64. **Sustainable forests management** (defined in the national forestry policy) aims at achieving the following objectives:

- regular growth of forest resources and their participation in the global carbon cycle;
- multi-functional forests – strengthening of forest's beneficial impact on the environment (improvement of functions related to water protection, climate generation, soil protection);
- preservation of health status and viability of forest ecosystems;
- protection and enrichment of forest biodiversity on genetic, species, and ecosystem levels;
- ensuring that forests as well as tree plantings and hedges have sufficient importance in country planning, including delimitation of a border between forest and agricultural land, and in the landscape protection;
- maintenance and development of productive functions of forests (production of timber and other goods);
- improvement of state and productivity of private forests;
- sustainable use of forest natural resources, including timber, game, undergrowth, introduction of safe techniques and technologies in forestry practices;

- improvement and introduction of new, state-of-the-art methods of forest inventory and monitoring;

- maintenance and strengthening of social and economic functions of forests, cooperation and communication with the public, development of education and science.

65. The achievement of these e objectives will only be possible if a dominant role of the State in the forestry management is maintained. The State should also assume more responsibility in terms of environmental protection and in the construction of physical order, especially in the context of current growing importance of environmental and spatial considerations in economic development. This is particularly important in the forestry sector. The State Forestry Enterprise must remain in charge of the status and development of forests, the basic element of environmental infrastructure of the country.

66. Functioning of the State Forestry Enterprise structure should ensure that forests will fulfil their functions related to water and soil protection, recreation, tourism, and health protection. This will allow for effective conservation of forest natural resources, ensure a widely accepted growth of the country forestage, and improve and preserve biodiversity of forest ecosystems.

67. It will also be very important to include in the forestry policy communities living in the proximity of forest areas and ensure their support to its implementation. For those people, forests are an important element of heritage and local tradition.

68. "**Guidelines on the improvement of forest management based on sustainability principles**" in force since 1995, published and introduced for use in Forest Promotional Complexes and further also in the rest of forest organisational units, recommend the actions towards:

- protection and reconstruction of water regimes, water and wetland biotopes and biocenoses, and cooperation with country planners in this respect;

- development of enriched forest ecotones;

- restriction of the size of clear-cuts;

- enrichment of species, age, and spatial structure of forest stands;

- preferences to natural methods of forest protection.

The Guidelines specify detailed principles regarding the protection of forest genetic resources, silviculture, forest protection and management.

69. The **Polish policy for the comprehensive protection of forest resources,** forming a part of the 1997 programme, aims at forest management fully in line with nature protection requirements.

70. Trying to meet expectations of the public, the forestry in Poland should take into consideration the following actions to be undertaken in a **short- and medium-term perspective**:

- adaptation of forests and forestry into various functions through bringing forest management in line with the principle of sustainable management of natural resources and implementation of environmentally sound production models;

- improvement of economic and financial solutions to ensure sustainability of forest ecosystems and multi-functional character of forest management;

- expansion and protection of forest resources and forest value, re-naturalisation of forest areas, cease of plant and animal species extinction;

- wide but controlled public access to forests, control of tourist movement in accordance with the objective of effective regulation and reglamentation of forest use, preventing threats to the quality and sustainability of forest resources.

71. Meeting of the assumed objectives is possible through:

- preservation of forest ecosystems in the state close to natural;

- restitution of distorted or degraded forest ecosystems;

- protection of biodiversity of forest biocenoses;

- sustainable use of forest resources;

- strengthening of a beneficial impact of forests on the environment;

- elaboration of an effective programme for the improvement of private forests management that will prevent their devastation.

72. An important tool in implementing these activities will be guidelines supplementing the forest management plan (the basic planning document in forest management) with guidelines concerning preparation of a **nature protection plan in a forest organisational unit**. Such a plan should contain: an assessment of the status of nature, recommendations on environmentally-safe forest management technologies, a plan of forest resources restitution with relation to habitat potential, and a plan for regeneration of biologically degraded soils. The forest units must also receive current maps of soils in forest areas under their administration.

73. **Specific detailed tasks** that should be implemented in order to meet the required objectives of forest ecosystems protection and introduction of safe forestry technologies include:

- preservation in a possibly natural state or restoration of forest small water retention reservoirs and watercourses and their lining with biological methods;

- restitution and protection of riparian and humid forests;
- preservation of wetlands, marshes, swamps, fens, peat lands, moors, dunes, boulder fields, rock outcrops, alpine meadows, and other the so called environmentally important sites located among forests, in their natural state;
- biological management of forest border zones and spatial division lines in forest complexes;
- protection of forest soils, in particular of their organic matter;
- leaving some of the old trees intact during clear felling in order to allow for their biological death following an important role of a habitat for many bird species;
- introduction of native species of trees and bushes in coniferous monocultures; enrichment of biocenoses with appropriate species of herbaceous plants;
- introduction of protection of key (either valuable or rare) components of biocenoses, including in particular birds, ants, plants of the undergrowth, and protected species;
- move from clear cutting towards selective felling (where natural regeneration is possible), move away from straight edges in felling;
- reduction of the width of felling areas to 30-60 m and their area to 4 ha, leaving seed trees as groups in order to enrich the biological and landscape diversity of forest areas;
- introducing supremacy of the biodiversity protection over the timber production in tree stands unique in natural terms;
- carrying out timber extraction in a way limiting negative impact on the forest ecosystems;
- environmentally friendly manner of works in forest nurseries; gradual switch from the use of chemicals into environmentally-friendly techniques;
- enrichment of species composition in forest replanting, taking into account natural mosaic structure of habitats;
- taking the existing trees plantings and hedges into consideration when planning for new afforestation of abandoned agricultural land;
- use of criteria and factors analysis for the assessment of activities carried out in particular periods of time.

74. To ensure that the above tasks are effective and in line with the state policy, the following means should be initiated: wide education and information, not limited to forestry employees only but also directed to general public, and focused on the objectives and effects of conducted activities. Therefore, preparation and execution of well-addressed educational and informational programmes are necessary.

75. Theoretical support is needed for activities towards the preservation of biological diversity in the forestry and focused on enrichment and proper exploitation of forest resources. This support should take a form of both basic and applied research.

76. Planting of trees and shrubs in agricultural landscape is an important factor of the protection of biological and landscape diversity as well as rational use of natural space. The presence of trees and shrubs and their spatial distribution within landscape should be an integral part of sustainable development and environmental protection programmes as well as physical development programmes. A prerequisite for effecting planting of new trees is an inventory of the existing ones, their evaluation and assessment of needs for further tree planting, as well as assessment of their protection and management. Trees plantings and hedges should be protected and introduced as a factor counteracting landscape degradation (protection of water resources, reducing negative impact of climate conditions, protection of local biodiversity) and supporting the role of forests and forest plantings.

2.6. Protection of mineral resources

77. Protection of minerals will be concentrated on reduction in their extraction in cases where a substitute can be found (based on renewable materials or waste) which meets the economic and environmental efficiency criteria and on reduction of consumption of the mineral per product unit. Search for and utilisation of mineral substitutes meeting relevant criteria will be financially supported by direct and indirect subsidies. In parallel, a programme of concessions will be improved by better use of economic instruments related to the major mineral and the accessory mineral present in a deposit.

78. Concessions for extraction of minerals will be issued providing that mining enterprises develop relevant programmes to reduce the scale and scope of environmental damage and to ensure good use of deposit resources together with accessory minerals. The programmes will have to be approved by the concession issuing authorities.

79. Special protection will be given to curative and thermal waters, for which a system of concessions will be maintained.

80. Search for useful minerals will be continued and expanded. Search, inventory, and management of deposits will be guided by the principles taking into consideration how common the mineral is and ensuring that all minerals present in a deposit are inventoried. Also a specific character of management of different types of deposits will be considered.

81. The measurement of success of the environmental policy in terms of the use of mineral resources in the economy will be indicators of the consumption of minerals calculated per production unit or per GDP, which should not exceed the average values in the OECD countries. The Minister of Environment will publish recommended indicators to be used for agreements with production enterprises that utilise mineral resources.

CHAPTER 3

ENVIRONMENTAL POLICY OBJECTIVES RELATED TO THE QUALITY OF THE ENVIRONMENT

3.1. Waste management

82. Protection against wastes is a **special sector of environmental protection** because specific activities can, in a longer perspective, bring not only unquestionable environmental effects in the form of liquidation of threats, but also quantifiable economic benefits resulting from sustainable waste management (recycling of materials, use of energy). This sector should be treated as a priority because wastes are causing pollution of all environment components (surface and ground waters, soils and land, air). None of any other environmental sectors gives such opportunities for the development of raw material and material market. At the same time, none of any other environmental sectors requires such high investment expenditure to be borne particularly in the initial period as well as significant organisational changes. Funds allocated recently to the protection of land surface in Poland (including waste management) amount for only 6-7 per cent of the total annual costs of environmental projects. Therefore, introduction of effective economic solutions that will use market mechanisms is so important (environmental product fees, environmental deposits). Many fold growth of funds allocated for the protection of the environment against wastes is also necessary, as well as increase of the effectiveness of their use. There is no chance that enterprises and municipalities could bear higher investment burden based on their own funds and commercial loans. It is therefore necessary to maintain through the next years the existing level of expenditure derived from the existing system of fee redistribution (environmental funds).

83. The **guiding direction** in the waste management policy is the sustainable development principle and an integrated approach to environmental protection that takes into account the issues of liability. The concept of a new strategy is to involve all business and social partners (down-to-top approach). The superior waste management policy objective is to prevent generation of wastes at source, raw material recovery and waste reuse, and final disposal of non-utilised wastes in an environmentally safe way. The prerequisite to implementation of the above objective will be a reduction of material- and energy-intensity of production (application of clean technologies), use of alternative renewable energy sources, use of the full product-life cycle analysis (production, transport, packaging, utilisation, potential reuse and disposal).

84. The **short-term priority objectives** (the period between 2000-2002) in waste management include:

- final harmonisation of the Polish laws with those of the European Union, including approximation to framework directives concerning waste, development of more detailed principles of handling such waste as waste oils, PCB/PCT, used batteries and storage batteries, titanium dioxide production waste, sewage waste, packaging, principles of the reduction of threats caused by asbestos, and definition of detailed conditions of waste handling (utilisation, incineration, and use of other forms of disposal, storage, transport, etc.); adding accuracy and precision to terminology used;

- development of a waste management strategy at national, regional and local levels;

- development of waste management plans at national, regional and local levels and in cooperation with other countries, including separately defined hazardous waste management plans (concerning selected types of waste) and waste from packaging;

- development of programmes for liquidation of hazardous waste containing heavy metals (mercury, lead, cadmium) and persistent organic pollutants (PCBs) concerning both currently generated and stored waste; acceleration of implementation of the programme for elimination of waste bunkers storing outdated pesticides and other hazardous substances;

- creation of new organisational structures and systems for execution of obligations, i.e. issuing permits, carrying out monitoring and control, identification and registration of wastes and waste management facilities;

- development of a concept for the construction of integrated network of waste management facilities, with special consideration of hazardous waste;

- strengthening efforts to receive financial support for the European Union (as part of preaccession funds, structural and cohesion funds), as well as from the International Financial Institutions;

- widening of market mechanisms and the development of effective economic instruments (cautions, product fees, tax preference system inspired by the European Union model used for material recycling and recovery);

- implementation of systems for comprehensive and reliable registration of wastes and waste management methods (database);

- identification of threats and broadening the scope of activities aimed at liquidation of old landfills, upgrading of landfills in operation and reclamation of degraded land;

- organisation of a national inventory of waste utilisation and disposal sites and installations;

- development of an action programme aimed at the reduction of heavy metals contents in batteries;

- introduction of legal regulations concerning permissible levels of heavy metal totals in packaging (lead, cadmium, mercury and chromium) and the time schedules for gradual reduction of these levels, in line with the Council Directive and the European Parliament Resolution 94/62/EC concerning Packaging and Waste of Packaging Origin;

- maximum reduction of waste transport, in line with the European Union principles of proximity and self-sufficiency;

- reduction of waste volumes stored at landfills;

- maintenance of an average level of municipal waste at 300 kg per capita (currently the ratio in Poland is about 290 kg per capita);

- preparation of a suitable waste register, including a regular reporting on waste management, both for the domestic needs and those of the European Union (every three years);

85. In the **medium-term perspective** (the years 2003-2010) the following will be necessary:

- intensification of practical implementation of the developed waste management plans;

- two-fold increase in the volume of industrial waste recovered and reused in production processes as compared to the 1990 levels;

- country-wide implementation of municipal waste selective collection systems, including hazardous waste;

- creation of comprehensive systems of raw material recovery from waste, including glass, waste paper, plastics, rubber waste, aluminium cans; recovery and reuse of at least 50 per cent of paper and glass;

- development of a comprehensive system for the recovery of packaging and packaging material recycling, including a uniform registration system of these wastes; elaboration and implementation of a time schedule for reaching the desired level of recovery and recycling, taking into account the Council and the European Parliament Directive 94/62/CE concerning Packaging and Wastes of Packaging-Origin;

- construction of integrated infrastructure for safe collection, segregation, transport, utilisation and disposal of hazardous waste (e.g. waste oils, used batteries and storage batteries);

- inventory of facilities polluted with PCBs and technical actions undertaken in order to remove these facilities and ensure safe disposal of waste oils with PCB/PCT contents above 50 ppm (e.g. cleaning up of transformers of PCB weight contents above 0.005%)

- introduction of registration system for facilities handling over 500 litres of waste oil per annum;

- activities aimed at elimination of PCBs, including first of all, inventory of equipment containing more than 5 litres of PCB and, until the year 2010, cleaning up of all equipment and facilities polluted with these substances;

- creation of markets for recovered materials;

- commencement of construction of an integrated network of waste processing facilities (interconnected with other European Union countries), especially concerning hazardous waste;

- implementation of the programme for liquidation of storage bunkers with old pesticides and other hazardous materials;

- development and systematic execution of a national strategy for the reduction of stored biodegradable waste, in line with the Council Directive 1999/31/WE concerning the storage of waste;

- storage of hazardous waste only after their prior neutralisation;

- completion of the programme for hospital waste incineration;

- withdrawal from production and use or limiting use of hazardous materials restricted by the European Union directives and international legal regulations (e.g. materials containing heavy metals, persistent organic pollutants, and substances causing the ozone layer depletion);

- introduction of a system of integrated permits issued for the emission of pollutants to all environment components in one administrative decision process and from the point of view of the best available technique, in accordance with the requirements of the European Union directive;

- implementation of an effective system of control and register of managed waste, including monitoring;

- broadening of research and development activities focused on new technologies in the recovery and reuse of waste.

86. In the **long-term perspective** (the years 2010-2025) the priority directions in the protection of the environment against wastes will encompass:

- full restructuring of the consumption and production model towards improvement of the energy and raw material efficiency;

- implementation of commitments related to the reduction in volume of stored biodegradable waste, in line with the Council Directive 1999/31/CE concerning the storage of waste;

- final resolving of the packaging problem as well as this of waste of packaging origin;

- organisation of an efficient recovery system for all secondary materials with utilisation of best available techniques (BATs);

- ensuring full disposal of stored hazardous waste, in particular a decision concerning feasibility of a construction of suitable facilities within the country or using those existing in other countries;

- gradual liquidation of old, earlier stored industrial and municipal waste'

- continuation of research and development works concerning low-waste technologies and technologies for waste recovery and reuse.

87. Strict following of the hierarchy of activities in waste management: prevention of waste generation, reuse, recovery of materials and energy, physical and chemical, thermal or biological transformation, disposal through incineration, and safe storage, will serve both the reduction of waste problem as well as energy and raw materials conservation.

3.2. Water conditions and quality

88. Key issue for the improvement of the quality of life and achievement of sustainable development is a provision of adequate supply of water of sufficient quality in the entire country territory, without causing distortion to natural environmental balance. This requires a change in the attitude towards water resources management. Municipal management (drinking water), industry (technological water), energy sector (cooling), agriculture (irrigation), and tourism (bathing water) are highly dependent on the access to water of suitable quality and in satisfactory quantities. At the same they are the main water polluters. The national environmental policy should thus focus on:

- prevention of pollution of fresh surface and ground waters as well as the Baltic Sea waters, with special emphasis placed on the prevention at-source;

- restoration of proper environmental condition of ground and surface waters, and further to that, provision of suitable sources for drinking water intakes.

89. The strategic directions for actions in water protection are the following:

- restoration of the quality of surface and ground waters (their physical, chemical, biological, and ecological indicators) to the state resulting from their assumed utilisation and needs related to their environmental functions;

- restructuring of water extraction for utilisation to ensure that ground water resources are used solely for the supply of drinking water and water for food industry (with some exemptions permitted, listed in p. 45), while surface waters – mostly for agriculture, industry, and energy sector, with their recreational values being preserved.

- construction of water retention and small retention reservoirs in order to balance the river flows and rationalisation of rain water run-offs to reduce their fast entry into open waters and to prevent the drying of land. Activities in this respect should facilitate the protection of naturally formed ecosystems and flora and fauna species living in water-related ecosystems;

- preservation of natural water retention reservoirs, such as wetlands and natural, not regulated watercourses, mainly as part of activities aimed at protection of biological diversity and sustainable forest management;

- protection of surface and marine waters against eutrophication; this refers in the first instance to the Lake Districts, protected areas, and fragile to eutrophication waters of the Gdansk Bay, Szczecin Lagoon, and Vistula Lagoon, and further to the open waters of the Baltic Sea and other waters in Poland, including transboundary waters;

- Protection of waters of the Upper Vistula and Upper Odra against salination from mining water.

90. Short-term priorities (the years 2000-2002) concerning improvement of water conditions and water quality include:

- development of a strategy for water management and water quality improvement, as well as implementation programmes to achieve goals required by individual community legal acts concerning problems of water quality improvement;

- implementation of a modernised system of monitoring of pollutant emission and water quality, with reference to the European Union standards;

- significant advancement in implementation of programmes for improvement of water and waste water management in the "hot-spots" ("List of 80" air polluting enterprises, and waste water treatment plants in the Baltic catchment area, listed in the Helsinki Convention);

- completion of the programme of liquidation of flood damages in the Upper Odra basin;

- development of an action plan focused on the reduction of sewage discharges with hazardous waste contents, incidental discharges of such substances as a result of industrial break-downs and their migration into ground waters from storage bunkers and landfills;

- introduction of a system of integrated permits, that will allow to reduce pollutant discharge to waters as a result of activities in air protection and waste management sectors;

- completion of preparation of a new Water Law and publication of all ten necessary executive acts and their final harmonisation with the European Union directives concerning water and waste water management and water quality;

- full implementation of the state management reform in relation to water management and protection, in particular concerning the county and provincial levels and relevant bodies of non-coupled administration.

91. In the **medium-term time horizon** (the year 2002-2010) it will be necessary to:

- elimination of untreated (raw) sewage discharges from towns and industrial sites; reduce the load of pollutants discharged to surface waters from industry by 50 per cent, from municipal sector by 30 per cent (from the area of towns and human settlements), from surface run-off by 30 per cent, against the 1990 levels. This will ensure that waters will meet the quality standards in force in the European Union;

- reduce water-intensity of industrial production by 50 per cent (calculated per unit of the production sold), against the 1990 level;

- meet the demand of human population of Poland for water of sufficient drinking quality through e.g. protection of ground waters, especially main water reservoirs in the country, establishment of protection zone around those reservoirs;

- implement the programme for improvement in the quality of water supplied by municipal water supply systems (both in towns and in the countryside) in order to meet stringent legal requirements;

- implement the ODRA-2000 Programme (strategy for modernisation of the Odra water system);

- complete implementation of the programmes for improvement of water and waste-water management in the ”hot-spots” (“List of 80”, and waste water treatment plants in the Baltic catchment area, listed in the Helsinki Convention).

92. In a **long-term perspective** (the years 2010-2025) it will be necessary to:

- implement a programme for construction, extension, and modernisation of waste water treatment plants, with intensified nutrient removal process, in cities of equivalent population over 10,000 (by 2015);

- implement a programme of construction of sewage systems and waste water treatment plants in 48 smaller cities and their extension in 822 small towns and rural settlements of the equivalent population over 2,000 and the dense housing areas (by 2015), which will allow to meet by the year 2015 the Community requirements concerning the existence of sewerage systems and waste water treatment plants in all towns of equivalent population of over 2,000 inhabitants;

- further reduce the load of pollutants discharged to waters by industry, including salt water from coal and salt mining industry; eliminate hazardous substances from waste discharged to surface waters in order to fulfil all national and European Union emission standards;

- solve the problem of water protection against pollution by agricultural nitrates; implement action programmes for the prevention of pollution with nitrates from agricultural sources in the areas sensitive to pollution;

- find a comprehensive solution to a problem of sanitation of sites of disperse housing in rural and urban areas.

3.3. Air quality. Climate change

93. Protection of air against pollution is the most **sensitive among activities** in environmental protection, as it focuses the attention of industry and local communities who bearthe direct impact of air pollution on health of staff and inhabitants. It also focuses the attention of governments and international community for such reasons as: transport of pollutants on long distances, impact on climate change, initiating adverse processes in the stratosphere (mostly in the ozone layer). Pollutants disperse in the air very quickly and immediately affect people, living organisms, plants, waters, soils, buildings, and monuments.

94. **Characteristics** of the new policy related to the protection of air against pollution include:

- increase of the number of pollutants encompassed by preventive actions aiming at the reduction or limiting their emission and adverse environmental impact (main such pollutants are substances causing direct threat to human health and life, such as heavy metals, persistent organic pollutants, substances causing environmental degradation and indirect impact on human health and living conditions, such as sulphur dioxide, nitrogen oxides, ammonia, VOCs, ozone, substances causing climate changes, such as carbon dioxide, methane, nitrogen monoxide, HFCs, SF6 (szostka nizej), PFCs, and substances causing the ozone layer depletion, controlled by the Montreal Protocol);

- growing emphasis on pollution control at source, through changes of energy carriers (with special focus on renewable energy use), use of clean raw materials and technologies (in accordance with the best available techniques and methods principle) and minimisation of energy and raw material use;

- further development of standardisation of emissions in industry, energy sector, and transport;

- further development and implementation of product standards, limiting air pollutant emission as a result of full product cycle – since raw material extraction, through their processing, production of new goods and products and their use, until their transformation into waste.

95. The **short-term priorities** (the years 2000-2002) in the air protection include:

- development of a strategy and executive programmes aiming at achievement of goals set out in individual European Community legal acts concerning the quality of air;

- reduction of environmental pressure caused by the "hot-spots" located in highly changed and degraded or threatened by degradation areas (first of all, the pressure form industrial enterprises included in the "List of 80" and on regional lists); improvement of their ambient air quality state allowing to reduce the number of such spots by 30 per cent against the present number of 80.

- elaboration and launching of a programme for the reduction of heavy metals (cadmium, mercury and lead) emission and persistent organic pollutants (WWA and dioxins/furans) emission;

- introduction into legal regulations of emission standards for 12 areas of industrial activity, in accordance with Aarhus Protocols concerning Heavy Metals and Persistent Organic Pollutants;

- introduction into legal regulations of product standards (including bans on production and use) for products and goods containing those pollutants;

- completion of the process of harmonisation of Polish regulations concerning air protection with the relevant European Union directives;

- introduction of integrated air emission permits, within the framework of integrated emission permits encompassing all environmental components (in line with the IPPC directive);

- full implementation of the state management reform in all aspects related to air protection, especially at county and provincial levels.

96. In the **medium-term time horizon** (the year 2002-2010) the following objectives should be achieved:

- reduction of particulate emission by 75 per cent on average (the actual value depending on sectoral requirements as stipulated in international legal regulations and the European Union directives); sulphur dioxides emissions by 56 per cent, nitric oxides emissions by 31 per cent, VOC emissions (excluding methane) by 4 per cent and ammonia emissions by 8 per cent, against the 1990 levels;

- reduction of toxic substances from heavy metal category (mercury, lead, cadmium) and persistent organic pollutants (pesticides, benzo(a)piren, and dioxins) as well as elimination of

production and use or limitation of use of products containing those toxic substances, in accordance with Aarhus Protocols to the Convention on Long-Range Transboundary Air Pollution;

- elimination of use of leaded petrol by the year 2005 and full harmonization of environmental requirements concerning petrol and diesel oil with the European standards;

- intensification of a process towards elimination or reduction of use of products and equipment containing mercury, lead, cadmium and PCBs as well as substances causing the ozone layer depletion; implementation of system of notification (production, trade, import, export, and use) and monitoring of trade in such products and equipment;

- achievement, in the years 2008-2012, of the GHGs emission not exceeding 94 per cent of 1998 levels and meeting the Kyoto Protocol requirements; two-fold reduction of energy-intensity of the domestic product and introduction of best available technologies in the area of energy efficiency and the use of renewable energy sources;

- wide introduction of BATs in the air protection sector, recommended by international legal regulations and tested in highly developed countries.

97. In a **long-term perspective** (by the year 2025), the priority policy directions in the protection of atmosphere include:

- structural change in the model of production and consumption towards the improvement of energy and material efficiency, wider use of renewable energy sources and minimisation of atmospheric emissions caused by all major types of sources;

- full implementation of commitments related to the elimination or reduction of production and use of all substances and products containing hazardous air pollutants, resulting from international requirements (heavy metals, persistent organic pollutants, ozone layer depleting substances, asbestos, and some others);

- wide participation in international research programmes focused on identification and evaluation of risks resulting from air pollution, as well as on improvement of BATs concerning reduction of this pollution.

3.4. Urban stress. Noise and radiation

98. The state of the environment in areas of intensive industry and urban development is one of the most important factor that influences a general quality of the environment in Poland, and has to a great extent, an impact on the living conditions of the population and the conditions for economic activity. This state, often called “an urban stress”, is a consequence of particularly high concentration

of emission sources and other disturbances in those areas. Moreover, these areas are are densily populated and account for a significant proportion of total country population. They are also a recipient for highly developed industries and services that contribute considerably to the gross domestic product. Each improvement in environment quality in these areas leads therefore to significant benefits to the environment, economy and population in a countrywide scale. The importance of highly industrialised and urbanised areas for the national environmental policy is also related to the fact that environmental damages or degradations and environmental discomfort are particularly numerous and extensive in these areas and result from the emission of pollutants and disturbance or other forms of human pressure.

99. Improvement of air quality in those areas must first of all encompass:

- reduction of scope and scale of incidents when permissible ambient pollution levels for air, water and soils are exceeded. This will require further reduction in the amount of air and water pollutants generated by industrial sources (and also by household combustion sources, in the case of air pollution), parallel to the limitation of transport-related emissions;

- decrease of intensity of land degradation. This will require minimisation of technical development of land, reduction of scope and optimisation of earthworks of various type, abatement of industrial and municipal waste volumes and increase of their reuse (thus reducing the area of land needed for their disposal), as well as intensification of use of waste already stored and the scope of reclamation works;

- reduction of population exposure to noise, especially when it exceeds relevant standards, and in particular noise generated by transportation means which has the broadest spatial coverage;

- control and reduction of non-ionising radiation emission generated mainly by electro-energy as well as radio and communication devices;

- improvement of proportions between heavily build-up areas and open areas, which constitute a basis for recreation and rest and ensure proper air circulation and exchange with neighbouring areas; this will require to limit an uncontrolled growth and spatial expansion of cities, industrial development of sub-urban areas and development of areas that constitute an environmental system of a city;

- improvement of urban areas aesthetical values, i.e. through developing of an organised green areas that will in addition play a protective role.

100. Apart from the national environmental policy goals directed towards mitigation of an environmental stress, as stipulated in sections 3.1-3.3 and 3.6, the following activities are also planned

(a) *in the short-term horizon* (by 2002):

- full harmonisation of Polish regulations related to environmental protection and transport with the relevant European Union directives, introduced before 1999 (inclusive) and concerning the reduction of noise emission by construction machinery and equipment and by household appliances;

- full standardisation of noise measurements and classification of noise sources, with regard to the European Union requirements concerning noise sources;

(b) *in the medium-term horizon* (by 2010):

- preparation of acoustic maps, for all cities with population over 250,000, as well as programmes for noise abatement (based on those maps) in areas where the noise levels exceed permissible values (e.g. through a construction of acoustic screens, exchange of windows in houses located along busy roads, modernisation of public transport fleet, construction of ring-roads around cities, moving railways and express roads in cities into tunnels, and other activities);

- abatement of noise in urban areas surrounding airports, industrial zones, and situated along main roads and railways to the level not exceeding 55 dB during night-time (equal level);

- introduction in local physical development plans of provisions concerning protection against noise and non-ionising radiation, with delimitation of zones of restricted use around airports, industrial sites, energy-electrical facilities, radio and communication and radiolocation equipment, and major roads and railways in all places where the noise level of 55 dB during night-time and permissible levels of non-ionising radiation are exceeded;

- elimination of production of transportation means, machines and devices with noise generation parameters not compatible with the European Union standards as well as gradual elimination of use of such equipment;

(c) *in the long-term horizon* (by 2025):

- reduction of noise in cities to the level of 55 dB during night-time;

- preparation of acoustic maps for all towns and cities of over 100,000 population;

- development of a permanent noise monitoring network in key points (points with high noise exposure) of all cities with population over 100,000 (areas affected by particularly large or numerous noise emitters such as transportation means and equipment, industrial facilities, high voltage electric power lines, etc).

3.5. Chemical and biological safety

101. Chemical and biological safety has growing importance in the implementation of the precautionary principle in the national environmental policy, in particular in relation to its goals focused on environmental safety of people and economy. It this context the safety means full control of environmental hazards related to **production, processing, distribution, storage, and use of chemicals and genetically modified organisms (GMOs).** The control will be based on the following mechanisms:

- ban on production and use of selected substances and preparations for which it was found that health and environmental risk level and related potential losses are higher than social and economic benefits of their use and for which substitutes can be found;
- resignation (ban on use) from certain technologies (especially biotechnologies) when evident and non-removable hazards for the environment have been found;
- restrictions on the scope and period of use in the case of lack of substitutes;
- introduction of procedures for notification or licensing of activity related to the production, marketing, and use of GMOs (or products manufactured with their participation) as well as chemical substances and preparations categorised as hazardous for health and the environment;
- wide practical application of procedures for risk management at the level of businesses and regions, including control mechanisms and labelling of marketable products.

102. Implementation of the above goals will be guided by general guidelines defined in the Agenda 21 and the OECD recommendations and decisions as well as detailed principles stipulated in the European Union directives, decisions of the International Forum on Chemical Safety and a number of international institutions dealing with chemical and biological safety (IOMC, UNEP, ILO, FAO, WHO, UNIDO, IMO).

103. In the **short-term horizon** (by 2002) the following objectives concerning chemical and biological safety will be pursued:

- adoption of an Act on chemical substances and preparations and implementation of a system of their registration and control;
- elaboration and adoption of an Act on GMOs;
- establishment of relevant institutions and bodies (agencies, centres, commissions, control services, labs) responsible for managing procedures related to the use of chemical substances and preparations and GMOs;

- access to the Rotterdam Convention requiring that an exporter must obtain a permit from a state authority of an importer's country prior to any trade in pesticides and other hazardous substances;

- ratification of the biological safety protocol;

- full harmonisation of Polish regulations with the European Union directives in terms of chemical and biological safety;

- elaboration and commencement of the "Programme 2000" focused on environmentally hazardous substances handling (initial assessment of 2000 substances produced in large quantities, detailed assessment of 200 substances causing particular environmental hazard, and 50 substances covered by hazard mitigation programmes), based on such programme implemented by the European Union states.

104. In the **medium-term time horizon** (by 2010) meeting of the following objectives is foreseen:

- introduction of good laboratory practice (GLP) principles in all labs participating in the state system of control over production and use of hazardous chemical substances and preparation and GMOs, as well as establishment of reference labs;

- organisation of a national pollution release and transfer register (PRTR), in accordance with the OECD provisions;

- implementation of a global voluntary system of chemicals classification and labelling;

- organisation of a register of chemical substances produced in Poland and imported to Poland;

- wide practical implementation of the industry's voluntary activities related to chemical and biological safety (the programmes "Responsibility and Care", "Product Management", and others);

- development and implementation of wide public information programme concerning threats and risks related to the use of hazardous chemical substances and preparations as well as GMOs;

- introduction of environmental impact assessment procedures in relation to new chemical substances and preparations new on the market and new biotechnologies.

105. In the **long-term horizon** (by 2025) Poland will fully participate in implementation of international programmes concerned with chemical and biological safety. Activities

will be undertaken towards systematic harmonisation of Polish laws and regulations with those of the European Union and practical introduction in public and industrial administration of the requirements and guidelines elaborated by relevant international organisations, to which Poland is or will be a member.

3.6. Environmental emergencies

106. Environmental emergencies encompass environmental consequences of industrial and transport breakdowns and accidents with participation of hazardous chemical substances, uncontrolled releases of GMOs, as well as natural disasters (floods, forest fires, storms, and other extreme climatic phenomena). In accordance with the precautionary and prevention principles, one of the main objectives of the national environmental policy is to eliminate or mitigate environmental consequences resulting from environmental emergencies and to improve the existing rescue system for accidents and natural disasters.

107. In the **short-term horizon** (by 2002) the following objectives related to environmental emergencies will be pursued:

- publication of executive regulations to the act on environmental protection and management concerning safety reports and operational and rescue plans;
- full harmonisation of Polish regulations with "Seveso II" Directive and other European Union directives related to the prevention of environmental emergencies (in particular the directive on safe road transport of hazardous materials and transboundary transfer of waste);
- establishment of advisory bodies and those responsible for notification and registration of hazardous waste and licensing of activity and registration of experts authorised to conduct risk analyses, prepare safety reports and operational and rescue plans;
- organisation of a national hazardous sites register;
- ratification of the ECE Convention on the Transboundary Effects of Industrial Accidents;
- commencement of work over new Act on environmental emergencies that will comprehensively deal with industrial and transport accidents, sudden GMO releases, and natural disasters;
- empowering the Minister of Environment with coordination within the scope of environmental emergencies; giving the role of a leading control body to the State Environmental Inspection, and the role of major rescue forces in accidents and natural disasters and of a leading body in the prevention of serious industrial accidents to the State Fire Brigades;
- establishment of an organisation (agency, centre) to carry out legally required registers, organise trainings, prepare methodological guidelines and action programme proposals focused on implementation of regulations and procedures on environmental emergencies; the organisation

should also play the role of a national focal point for international organisations, programmes, and conventions in this area;

- development of a public information and education programme on environmental emergencies that will cover activities on local, regional and national levels;

- amendment of physical planning regulations as to introduce a requirement for each local spatial management plan concerning area with hazardous sites to include provisions on environmental emergencies.

108. In the **medium-term horizon** (by 2010) the following objectives should be met:

- to prepare safety reports, internal risk management plans and operational and rescue plans for all hazardous sites/facilities encompassed by the "Seveso II" Directive (higher criterion of hazardous substance contents); this will relate to about 200 sites in the country area;

- to prepare risk assessments and register all sites/facilities encompassed by the "Seveso II" Directive (lower criterion of hazardous substance contents); this will relate to about 1,000 sites in the country area;

- to prepare operational and rescue plans for all communes that have hazardous sites/facilities in their area;

- to prepare provincial plans for risk management for all voivods and county plans for those counties having more than five hazardous sites/facilities (out of the total of about 1,200 in the country);

- to organise a central level system for the analysis of experience learned from earlier accidents and rescue operations conducted; to prepare regular (at least every 3 years) reports to this effect;

- to introduce a system of environmental insurance for those hazardous sites and activities for which a potential emergency situation may require immediate financing of rescue and repair operations;

- to prepare a programme for technical strengthening of a national rescue and fire extinguishing system.

109. In a **long-term perspective** (by 2025) Poland should achieve the state where accident ratio of hazardous industrial installations and transport facilities (pipelines, vehicles, rail carriages, ships) does not exceed average ratios for the OECD countries.

3.7. Biological and landscape diversity

110. Environmental safety of the country requires, *inter alia*, maintenance of domestic biological and landscape diversity at a proper level as well as enlargement of protected areas as to cover one third of the country area. Some of the objectives of the new environmental policy include intensification of reclamation and re-naturalisation of degraded land, prevention of environmental quality deterioration, termination of cultural monuments degradation, and improvement of effectiveness of conservation exercised on areas already legally protected. Protection of biological and landscape diversity is one of the more important issues related to the national environmental safety.

111. **Major tasks of state authorities, public services and business administration should** focus on the creation of conditions, development of plans and their coordination, and implementation of biodiversity-friendly management methods, good practices in various economic sectors, with an overall aim to preserve entire natural richness and related cultural heritage. Main objectives include:

- creation of conditions for implementation of sustainable development strategy for the country economic and social development;
- improvement of the state of the environment – removal or reduction of threats to the preservation of biological and landscape diversity;
- preservation, reconstruction and enrichment of natural resources;
- wide public acceptance to the need for preservation of the whole natural and cultural heritage of Poland.

112. Activities aimed at the conservation of biodiversity on a national level should be directed towards improvement of **natural heritage preservation** through:

- adoption of the principle of preservation and reasonable use of natural resources potential as a basic rule in the development of the state;
- development of a consistent legal and financial system to create a framework for practical execution of nature conservation; biological and landscape diversity protection needs must be resembled in physical development plans of the country, provinces and communities;
- development and implementation of country cross-sectoral plans and programmes for conservation and sustainable use of biological resources;
- creation of conditions for *in situ* and *ex situ* protection of biodiversity; protection of the entire country's nature, regardless of forms of its use;
- protection of species of wild flora and fauna through an extension and improvement of a system of control of trade and transfer of specimen and products, in accordance with the CITES Convention and the European Union requirements;

- research and monitoring of the status of natural resources;

- *in situ* and *ex situ* protection of species domesticated breeds;

- protection of the most endangered ecosystems as well as species and their habitats through a creation and enlargement of a country network of protected areas (national parks, nature reserves, and others), implementation of NATURA 2000 system;

- implementation of a special strategy for the conservation of wetland areas which have special importance for preservation of biological and landscape diversity and the country's water balance; their protection requires a multi-sectoral approach in terms of spatial development at regional and national levels;

- protection of rivers and other sequential-type spatial structures that have high importance for the preservation of biodiversity, also as biological corridors;

- development of legal and technical solutions to ensure biological safety of the state - including counteracting adverse consequences of GMOs release into the environment;

- creation and improvement of economic instruments necessary to continue reasonable use of biological diversity;

- spreading of environmental knowledge, problems related to the protection of ecosystems, natural habitats and species, landscape, shaping of behaviours favourable to biodiversity protection;

- gaining public interest and involvement of general public and individual social groups into activities concerned with nature conservation;

- preparation of suitable educational programmes and creation of conditions for their implementation;

- conducting and strengthening of international cooperation, especially with the aim to preserve resources constituting common heritage and sensitive areas, i.e. areas particularly sensitive to damage.

Effectiveness of actions related to the protection of natural heritage of the country depends primarily on the policy and solutions adopted at a local level and gaining interest and understanding from the public.

113. The urgent **short-term objectives** (by 2002) include:

- development and adoption of a national biodiversity protection strategy, being a part of obligations resulting from the Biodiversity Convention, to which Poland is a Party;

- incorporation of the Convention provisions into sectoral programmes and strategies in (a) agriculture, (b) forestry, (c) tourism and recreation, (d) physical management, (e) transport, (f) water management, (g) marine management, (h) education, (i) culture;

- incorporation of the Convention provisions into sustainable development and environment protection programmes prepared at the level of community, county, and province;

- bringing administration of all natural resources under the responsibility of one minister. This implies that the Minister of Environment will be given tasks related to the protection of natural resources of the Baltic Sea, protection of soils and physical planning. This will enable efficient and comprehensive supervision and control of varied use of natural resources on the country scale;

- establishment of a Chief Nature Conservator as an agency supervised by the Minister of Environment;

- strengthening (in terms of staff, finances, and competencies) of nature conservation services acting at central and provincial levels and in national and landscape parks;

- establishment of organisational units responsible at county and provincial levels for biodiversity protection (together with sustainable development and environment protection).

114. Specific activities undertaken at various levels and ministers in a **medium-term** perspective (by 2010) should encompass in the field of

(a) *environmental protection:*

- establishment of a Polish part of the European Network of Protected Areas NATURA 2000 through evaluation of areas already under protection as well as naturally valuable areas not covered by any form of protection but fulfilling the NATURA criteria;

- re-naturalisation and improvement of the state of damaged ecosystems and natural habitats, especially forests and wetlands;

- species restitution (in justified cases);

- use of all available means to protect natural resources away from their natural stands (*ex situ*); creation and maintenance of conditions necessary for *ex situ* protection, support of research to this effect;

- support of research and inventory concerning evaluation of the state of biodiversity and identification of threats;

- introduction of biodiversity monitoring, as well as criteria and indicators for the control of the national environmental policy effectiveness.

(b) *agriculture:*

- control of biological resources extraction from their natural habitats for the purpose of *ex situ* protection;

- establishment of legal regulations to control biological safety of the country and provision of measures for legislation enforcement and the control of threats related to the use of biotechnologies;

- activities towards preservation of diversified agricultural landscape with medium size farms;

- legal and financial support for agricultural practices using production methods that do not disturb natural balance, mainly organic and integrated farming;

- protection and management of biodiversity in the entire country area, including developed and built-up areas; protection of many species and their habitats depends of preservation of their entire life's environment – in many cases this includes also continuation of human intervention, for example maintaining a traditional system of the management in the area; it is necessary to agree with all interested sectors and introduce relevant rules in implementation of investment programmes in construction, agriculture, forestry, transport, and tourism;

- maintenance of traditional management practices in areas of high natural value as a tool for protection and sustainable use of biological resources;

- refraining from introduction of species that can put at risk the integrity of natural ecosystems and habitats or jeopardise native species.

(c) *education:*

- activities towards a development of environmental awareness and shaping of opinion of the public and local authorities; promotion of topics related to biological diversity through centrally and locally organised trainings and information campaigns; improvement of social communication in understanding goals and consequences of biodiversity protection;

- promotion of rational use of biological resources and practices of cautious and sound management that will not damage natural resources more than it is absolutely necessary, in accordance with sustainable development principles, stressing local benefits arising from the preservation of biological and landscape diversity;

- exchange of information concerning biodiversity protection and an international scientific co-operation.

115. A **perspective goal** of biological and landscape diversity protection to be met by 2025 is:

- to ensure preservation of areas of high natural values, which have not been placed under legal protection to date, through introduction of their protection in various forms;

- to create in the remaining country area such conditions and principles for economic activity (including principles of flora and fauna species protection) that will allow for **gradual growth of biodiversity**. Control of this process should be exercised by scientifically developed, well justified, and socially acceptable set of indicators.

CHAPTER 4

TOOLS AND INSTRUMENTS OF THE ENVIRONMENTAL POLICY

4.1. Environmental legislation and its harmonisation with the EU requirements

A. General trends

116. Effective implementation of the environmental policy requires creation of **modern and cohesive system of environmental legislation**. The system must fulfil the following prerequisites:

- it must comply with the Constitution
- comply with international commitments of Poland (including the EU requirements)
- be socially acceptable
- feasible
- environmentally effective
- economically efficient

117. The new environmental legislation, deeply restructured as compared to the existing one, should enable, as far as possible, flexible choice of instruments to deliver the goals with use of the constitutional principle of auxiliary. The goals should then be delivered at the most appropriate level – some at the central level but most at the provincial or local level. Some of the tasks may be sublet to non-governmental bodies (R&D units, agencies, foundations, businesses, social or environmental organisations). It is necessary to follow the state administration structure and, consequently, split competencies and the relating responsibility between the particular levels. The newly constructed environmental legislation should aim at providing the decision-makers with appropriate means to evoke pressure on the environment users relative to the respective problem and actual conditions. The decision-makers shall be responsible for selecting such tools (or combination thereof) as to ensure maximum environmental and economic efficiency as well as social acceptance. To that end, one needs a number of economic, administrative and other instruments like volontary agreements with enterprises or registration and certification of environmental management systems.

118. Draft environmental laws and programs (plans, strategies, policies etc.) shall be:

- assessed for environmental effectiveness or its impact on the environment (in the form of the so called strategic assessment of environmental impact),

- assessed for cost efficiency (i.e., examined for the most cost-effective tools to reach the goal),
- socially consulted with all interest groups (including businesses, environmental organisations and local governments),
- assessed for compliance with the EU requirements, which have already become mandatory, and those of the OECD and other international binding commitments.

Draft environmental laws and programmes shall undergo regular mandatory performance review (every 5 years) to assess the effectiveness of each act, strategy or policy from the environmental, economic and social point of view.

B. Short term tasks

119. **The short term tasks** (2000-2002) for the improvement of the environmental legislation shall focus on **transposing** the **EU** laws to the Polish law in order to obtain by Poland the status of EU candidate by the assumed by Poland time horizon i.e. the end of 2002. These tasks will be guided by the "National Programme for the Preparation to Membership in the European Union", Polish position in the pre-access negotiations and the result thereof. The key issue shall be the negotiated package of transitional adjustment periods (their scope and deadlines). Respectively, the principle will be adopted stipulating that the issues subject to the adjustment periods and making part of the Polish negotiations position, shall not be included in the Polish laws to be adopted prior to the completion of the a/m negotiations.

120. **The urgent short term tasks** (2000-2002) concerning the improvement of the environmental laws include adoption of the following provisions, new or deeply restructured due to the transposition of the EU law to the Polish law:

- Environment Protection Act,
- Act on Environmental Impact Assessment and Access to Environmental Information,
- Act on Chemical Substances and Preparations,
- Water Llaw,
- Act on Water Supply and Sewage Management,
- Act on Genetically Modified Organisms (GMO),
- New Act on Wastes,
- Act on Packaging and Packaging Wastes,

- Act on Spatial Planning,
- Acts on Nature Conservation,
- Act on the Protection of Animals,
- Act on the Protection of Cultivated Plans,
- Act on the Control of Substances Endangering the Ozone Layer,
- Act on the Responsibilities of Enterprises for the Management of Selected Wastes and on Product and Deposit Fees,
- Act on Increased Application of Renewable Energies,
- Act on Forest Propagation Material.

An important role in the complete transposition of the EU law shall play the executive provisions to the a/m acts of law. Packages of mandatory executive laws should be introduced by end 2002 while the auxiliary provisions – by end 2005.

121. An important role in ensuring the sustainable development of the country shall go to the assessment procedures of environmental impact regulated in the **act on environmental impact assessment and access to environmental information**. The procedures shall include, as it has been to date, investments which can have a most significant or significant impact on the environment, the town and country planning as well as draft policies, strategies, plans or development and restructuring programmes in the field of transportation, power supply, water and waste management, industry, telecommunications, tourism and other to be elaborated at the central or provincial levels and which will have an environmental impact. The new law shall also ensure adjustment to the EU laws, namely to the so called horizontal legislation and the Aarhus Convention (1998) on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters as well as the Espoo Convention (1991) on Environmental Impact Assessment in a Transboundary Context.

122. **Act on Chemical Substances and Preparations** which is bound to be passed at the end of 2000, shall ensure full compliance with the EU requirements specified in the numerous directives relating, among others, to classification and labelling of chemical preparations, requirements concerning cards for labelling dangerous substances and preparations, lists of dangerous chemical substances classified and labelled, lists of existing chemical substances, procedures for marketing new substances, methods of examination their physical and chemical characteristics, toxic and environmental features as well as the requirements for good laboratory practice assessment of threats of new substances, control of the existing substances, limited or banned marketability or use of some hazardous substances, requirements for exportation of some hazardous substances. The full adjustment is conditioned by introduction in the Polish law of a list of existing substances, i.e., the EINECS /European Index of Existing Chemical Substances/.

123. The new **Water Law** and the draft **Act on Water Supply and Sewage Management** shall ensure full adjustment to EU's

water management and water protection against pollution, including drainage system, monitoring of surface and underground waters, water and sewage analysis, water protection against agricultural nitrate, standards for drinking, household and fish keeping water, standards for acceptable discharge of sewage in waters and sewage system, including unit raw material or product ratios, procedures for issuance of water permits and regulations concerning off-the-system sewage disposal on poorly populated areas.

124. The new **Environmental Act,** which, similarly to the existing one, shall be a basic act of the Polish law concerning environmental protection (often called the mother law), shall embed into the Polish law environmental principles, legal entities, terms and definitions of the EU. The act shall also ensure compliance with the EU environmental laws concerning pollution protection by integrated environmental permission system and the best available technologies (BAT), noise protection by noise standards broadly applied to machines and devices, protection against serious industrial break downs and its impact, economic and financing mechanisms of environmental protection, legal responsibility for environmental effects of activities as well as voluntary environmental actions (eco-management, eco-labelling, voluntary agreements between entrerprises, administration bodies and other public institutions). The law shall also regulate, in compliance with the Constitution, the fees for economicuse of the environment and for transforming the environment. As concerns noise protection, the necessary supplement of the new environmental law shall be the executive provisions of the Minister of State Economy, which shall transpose the EU requirements on noise limits of industrial products onto the Polish law.

125. Steps have been taken to develop a law which would regulate in comprehensive manner, the preplanned and accidental release of genetically modified organisms, including the risk assessment procedures, methods of research, permits, labelling of products composed of genetically modified organisms or manufactured on the basis thereof. The law should be prepared so as it can be adoptednot later than in 2002.

126. The question of adjustment of the environmental law with the EU must not hinder Polish aspirations to the fast and full membership. When implementing the "National Programme for the Preparation to Membership in the European Union" and the pre-access negotiations account must be taken of ensuring both Poland's strongest possible negotiating position and feasibility of the commitments. Urgent adjustment of Polish laws wherever possible (without waiting for comprehensive legislation) as well as development of detailed timetable of compliance actions concerning other areas together with convincing arguments, shall be our priority. The minimum requirement for the laws in the areas where Poland is at the moment unable to fully adjust to the EU, shall be the absolute requirement of using terms applied in the EU legislation (in particular the applied definitions) as well as procedures and legal frames to make the full adjustment possible through executive provisions to the laws without the necessity of amending the laws themselves.

C. Medium term tasks

127. The **new regulations** shall be drafted between 2000-2002 and 2005 at the latest and will concern:

- packaging and packaging waste and. Tregulate obligations of packaging industry or importers of packaged products, rules of collection and recycling of the packaging waste, competencies of environmental administration to control the observance of the law as well as a system of economic measures and sanctions,

- voluntary agreements between the state administration and businesses concerning environmental protection,
- liability for environmental damage,
- ban and limitation of manufacturing, marketing, use, imports and exports of products composed of heavy metals and persistent organic pollutants,
- noise and vibration protection.

The EU directives, the OECD recommendations and the International Conventions signed and/or ratified by Poland shall be taken into account when developing the regulations (laws or executive provisions).

128. Steps shall be taken to prepare legal basis for **voluntary agreements** to be signed between the state administration and representatives of each industry, which shall define environmental objectives for the industry (i.e., as reduction of particular pollutants) as well as the terms and deadlines for the goals and sanctions for failure to deliver.

129. **The** concept and the legal basis must be created to establish a register of pollutants in a form of electronic data base, widely accesible by the public (according to the OECD recommendations), based on reports periodically submitted by enterprises.

[1.] Steps must be taken to create comprehensive laws on **environmental damage liability** to define:

1. strict liability rules for "new" environmental damage (i.e., that occurred after the law has been introduced), including the cost of remedy of environmental emergencies and the fees paid by potential injurer, both domestic and foreign, covering the cost of efficient rescue actions (control system of areas surrounding the imminent sources, especially line-long – railways, pipelines, motorway etc.);

- transparent principles for remedy of "old" environmental damage, in particular under the privatisation process, including:
  - introduction of priority list based on objective evaluation of threats,
  - detailed definition of who should pay and for what – when and to what extend it should be the state budget, local governments or respective environmental funds and to what extend the injurer, both domestic and foreign (or its representatives) or the estate owner.

131. A new regulation, complying with the Constitution and international commitments, should be introduced concerning **financial penalty** for non-compliance with environmental regulations. Such regulation should introduce a true penalty and not remain a substitute to just compensate a non-compliance with the environmental permit.**132.** The laws concerning **products** composed of hazardous substances (heavy metals and persistent organic pollutants) should include:

- lists of substances whose production, application, imports and exports have been banned (the concept has already been included in the draft new law on environmental protection),

- lists of substances whose production, application, imports and exports have been limited (including the scope of the limitation),

- product standards (acceptable composition of heavy metals or persistent organic pollutants) for marketable products,

- procedures for obtaining licenses or permits for trade of substances subject to such regulations or notification of such trade,

- monitoring rules of production, trade and application of such substances and related waste generation.

4.2. Economic and market mechanisms

133. The economic and market mechanisms applied with environmental policies play two important roles:

- supplement or enhance the legal and administrative instruments by means of financial incentives to observe the legal and administrative requirements. They also enable enterprises making environmental decisions, within the law, with view of the financial advantages;

- minimise the social cost of environmental protection which means that if there is a choice between the extend of using the environment and/or polluting it, decisions about environmental protection should be taken by those entities which would bear the lowest cost of the environmental protection. Another aspect enables an enterprise to compare the cost of pollution reduction with the cost of environmental damage Caused by its activities. When the environmental fees are higher than the reduction costs they may trigger protective actions.

134. Poland is a country of quite a broad application of economic instruments in environmental protection. Besides modification of the existing instruments, theoretical studies should be continued and new ones started, including projects on implementation of new instruments of indirect regulations, i.e., economic-and-market regulations. According to the experience of highly developed countries and the OECD recommendations, designing and implementing modified and new solutions (new to the existing practice) shall be based on the following criteria:

- **Environmental effectiveness**. That criterion relates to the particular goals of the environmental policy. The effectiveness shall be measured by comparison with environmental standards as indicators of environmental policies. When assessing the existing economic instruments of environmental policies and designing new ones, one must remember that environmental effectiveness of

such instruments depends on the extent of the polluter's response to them, i.e., on their stimulating function;

- **Economic efficiency** means reduction of the total cost of an expected environmental benefit or reduction of the unit cost of an environmental effect. Nevertheless, state environmental policy may not be limited to such accounting view on economic efficiency. Sometimes the cost may seem very high but the environmental benefit may also prove to be worthy. In such a case, assuming that there are reliable methods for economic valuation of such effects, economic efficiency should be seen as maximisation of environmental benefit at the given cost;

- **Fair distribution**. All environmental fees and duties have a direct or indirect impact on the prices of work in progress, finished goods or production factors. The latter implies distributional effect concerning enterprises, households and states. The effects may vary in form and scope depending, for example, on the margin cost of pollution reduction or flexible demand of the product influenced by one of the economic instruments. When developing modified or new economic instruments one must remember that while the primary effects may concern many entities, final effects will always be borne by households, i.e., by consumers who will cover the cost (increased prices of goods and services) implied by the environment-protective instrument. Still, should the instrument mean more efficient handling of an environmental problem and, consequently, improved condition of our environment, including lower environmental sanitation cost, then the households may have ***net environmental benefit.*** The latter will be understood as stronger environmental benefit (assuming that we can estimate its monetary value) than the necessary cost borne. One must bear in mind the fact that the result may differ between households, depending, among others, on their wealth and regions;

- **Implementation feasibility**. It is conditioned by legal and institutional cost to be borne to implement and run an instrument as well as identification of entities to be influenced by the instrument. The entities will then have to be notified about it and provided in advance with methods of gradual implementation.

- **Means of problem recognition and collecting information for implementation**. Application of any of the economic instruments with environmental policies should always be addressed to solve the particular environmental problem. Therefore, an important element is to recognise the problem from scientific and technical point of view, to specify the threat to life and health or ecosystems as well as potential damage in the natural capital and other than economic areas. The access to technical and economic information which conditions proper functioning of the instrument, especially for its environmental and economic efficiency is particularly important.

135. Functioning of economic and market mechanisms in environmental policies shall be ensured by the **system, which** includes the following **instruments**:

- fees for industrial use of the environment and its transformation (in particular of water abstraction),

- fees for polluting different environmental components, including non-material pollution/damage,
- financial penalty as an instrument controlling compliance with the norms, commands and bans and other direct regulatory forms,
- subsidies from public funds of environmental investments, including compensations for limited ownership rights related to the establishment of protected areas with great natural value,
- product fees and environmental deposits (and/or mixed systems),
- user fees for the use of public technical devices for environmental protection,
- environmental tax on fuels and/or coal tax as a special kind of product fee,
- mandatory and voluntary civil insurance policies against environmental damage,
- tax preferences aimed at the EU regulations,
- environmental performance bonds,
- markets of disposable pollution permits and related instruments (e.g. unions of emission producers).

136. The **urgent tasks** include:

- Introduction of product fees (environmental taxes) and deposits
- Changed function of environmental penalties aimed at representing a repressive instrument applied incidentally in cases of environmental damage, non-compliance with the emission levels of pollutants or breach of agreements on construction of protection sites
- Setting transparent rules for environmental subsidies both in the form of direct and indirect subsidies (tax and duty levies or preferential crediting), with regard of international terms and conditions, in particular:
  - Restricted use of the subsidies resulting from Poland's participation in WTO (practice of the Trade Subsidies Committee adopted at the Uruguay Round and the WTO transformation clause)
  - The EU recommendations on limiting public support of environmental investments made by enterprises

- Introduction of voluntary civil insurance policies against environmental damage, and in cases of high environmental risk, also mandatory ones

- Possibility to trade emission permits to the extent and on terms set forth on the basis of environmental effectiveness and economic efficiency principle

- Introduction of gradual inclusion of external costs in the price of power supply, raw materials, products, municipal, transportation and other services.

The a/m instruments should be gradually implemented in the **short term** (2000 – 2002) and the **medium term** (over 2002) in order to complete the process by 2005.

137. Emission fees for air or water pollutants are today one of the highest fees in the world, therefore any further increase of its real value (inflated) might have negative impact on international competitiveness of Polish product both on the domestic and foreign markets. The EU emission fees are used at a limited extent and the level is remote from any stimulating function (apart from the few exceptions, e.g., sewage fee in Germany or emission fee of sulphur dioxide by power plans in Sweden). Therefore, a new approach to fees should be developed, including in particular:

- Unification of the fees (the fees must be independent on the environment user)

- Lump-sum fees for households that discharge sewage directly in the water or soil

- Adoption of a rule that an entity discharging sewage pays for net pollutants only, that is for the difference between the water supplied and discharged

138. Assuming that entities act according to permissions they hold, **penalty** would become **sanction for causing damage**. Therefore, it would be reasonable to replace penalties with penal fees calculated progressively according to the exceedance of the most dangerous factor included in the permit. Revenues from penalties would be used to create a protective system against emergency situations, rescue system and a system for removing the effects. In parallel we should develop a system of voluntary insurance against environmental damage that would cover the penal fees in the case of damage. Enterprises might then choose between investing in environmental damage protection and bearing the cost of higher insurance policy. When drafting a system of environmental insurance policies one must take into consideration the moral risk of too low insurance contribution that might lower businesses' interest in taking measures to protect the environment. Court proceedings should also be facilitated particularly for physical persons claiming their losses under insurance policy caused by environmental damage.

139. **Product fees** are fees imposed on products whose production, consumption or storage is dangerous to the environment. Their consumption is scattered (e.g., households) causing relatively low environmental damage – as a single act of consumption or production – but dangerous in aggregated terms. **Environmental deposits** are financial burden on products of particular danger, even in non-aggregated scale, during production or after consumption. Such products are subject to recycling, neutralisation or proper storage after production or consumption. Environmental deposits and product fees aim to be broadly introduced to the following end:

- to restrict manufacturing products arduous to the environment in use and storage, especially those which can be replaced by environment-friendly substitutes,
- to restrict throwing waste that could find industrial application,
- to incite consumers to use more environment-friendly products,
- to develop the behaviour of separating waste and passing segregated waste to appropriate receivers,
- to establish financing for the collection, disposal and recycling of wastes.

Revenues from product fees and deposits should support the system of restricting, collecting, recycling, neutralising and proper disposing of wastes. An important argument for introduction in Poland of product fees and deposits is its popularity in the EU.

140. Market-oriented optimisation of pollutant abatement has less requirements, and, therefore, lower cost of information. Still, the solution implies **transaction costs** that is the cost of negotiating and controlling agreements or the cost of institutions necessary for the functioning of emission permits market (e.g., banks or stock exchange). An important condition for efficient functioning of the **emission trading** market is state control over the a/m institutions, i.e., the state environmental protection agencies. Introduction of marketable emission permits should be voluntary which means that enterprises should choose between the old system of emission fees and participation in the market of permits. The latter requires more flexible laws, in particular the possibility for institutions issuing the permits to suspend emission fees whenever the emission permit is bought on the market.

141. The EU and other OECD countries' practice (especially in the USA) proves that important environmental effects may be reached through **agreements** signed by regional governments and enterprises that have a serious impact on environment. Poland can also show some positive experience in that regard. Such agreements should include feasible timetable for partial goals as well as financial support of economic activities in the form of suspending environmental penalties provided the goals have been reached within the deadlines. As it is today, the deadline does not need to be unified for all enterprises. Additional insurance of the fulfilment of commitments may be ecological performance bonds that can also be negotiated between public bodies and businesses. They are equal to environmental deposits (investment deposits) refundable after completion of the contractual provisions. OECD countries found that environmental actions undertaken by businesses may result from the growing ecological awareness among their staff and employees, public pressure, ecological management systems both normative (ISO 14 000, EMAS) and non-normative (clean production programmes) as well as from environmental marketing. The latter creates a pro-environmental image of the company in order to influence its market position, the turnover and incomes, and, by doing so its competitive benefit.

4.3. Financing of the environmental protection

142. The financing system of the environmental protection makes immanent part of the economic and financial system which is, in

turn, a subsystem of an integral target-oriented instrument system to make effective the environmental policy, including legal,administrative, planning,informative, economic, financialand educational instruments The **existing economic and financial system** for environmental protection falls into three parts:

[1.] ecological fees in general,public and private institutions, especially financial ones, both commercial and non-commercial which allocate funds on and off the market to the applying entities: enterprises, public institutions, local governments and households. Theseinstitutions are:

- specific ecological funds; general (environmental protection and water management funds) and specific (e.g. fund for protection of agricultural forestry areas),
- the state budget, local and regional budgets,
- commercial financial institutions, especially banks that extend ecological loans on market terms,
- other non-commercial domestic financial institutions (apart from environmental protection funds), e.g., foundations. We may include here commercial institutions to the extent to which they let environmental credits and loans on terms better than market terms due to the support from the National Fund (e.g.Bank for Environmental Protection),
- pre-accession aid funds from the EU (PHARE, ISPA, SAPARD),
- foreign financial institutions and other aid programmes (the WB, the EBRD, GEF and other);

[1.] source of financing:

- ecological fees and penalties connected with the a/m system of fees for economic use and transformation of the environment by industrial activities,
- own funds of the commercial and non-commercial financial institutions, including environmental protection and water management funds originating both from interest paid and loans and statutoryfinancial activities,
- public funds allocated for environment protection purposes within the state budget and local self-governmental budgets,
- own funds of enterprises, originating both from their cash-flows and from commercial bank credits,

- savings and other forms of own funds owned by individuals (households) as well as their current income (e.g. in a case of operational fees on environmental infrastructure),

- transfer of foreign savings in the form of direct foreign investments enhancing financing of environmental projects by financial institutions acting in Poland as well as of aid funds,

- financing through equity investments, i.e. future participation of the investor in ownership and profit gained by the environmental investment.

143. Functioning of economic and financial system to protect the environment is heavily based on environmental fees and funds and it can not in a longer term be reconciled with the requirement for equal treatment of all entities on the common European market. One should therefore aim at gradual replacement of pollution fees with other economic instruments, in particular product fees and environmental deposits and at a transformation of environmental funds into financial forms compatible with principles and public support criteria in force in the European Union. The role of commercial financial institutions, especially banks, in supporting environmental investments and projects, must be strengthened. **Transformation of non-state budgetary environmental funds into revolving-type financial institutions** should also be supported.

144. Germany and Switzerland should be adopted as examples to be followed when supporting the use of private funds for extending preferential credits for environmental investments by **commercial financial institutions**. This entails the so called ecological savings of individuals, businesses, and institutions, located in banks as "eco-deposits", "eco-accounts" etc. Such savings, with interest rate below market rates, could become an additional (to the support granted by environmental funds) source for preferential loans, used in particular to equalise the difference between preferential and market interest rate. Financial incentives to use private funds for environmental investments, preferably in the form of tax incentives based on examples functioning in the EU countries should be created. It is obvious that the dynamics of the development of such financing will largely depend on environmental awareness of the society. On the other hand however, it can have a reverse impact of growth of such awareness. One should also act toward growing role of other forms of environment protection financing such as leasing of environmental facilities and equipment and capital investments. The latter have particular potential in sectors with high share of win-win situations i.e. environmental effects are matched by measurable economic benefits.

145. Within financing mechanisms **specific funds collection** and expense must be created. For example product fees charged on purchase of products harmful to the environment could be used to finance a system restricting the use of such product or a system restricting their impact. Similarly, incomes from deposits originating from the difference between deposits charged and paid should cover the cost of their development, implementation and current functioning.

146. The **urgent goals related to** financing mechanisms include:

- transformation of the system of disposing incomes from environmental fees to reflect the country's new administrative structure and introduction of drainage-based system in water management as well as analysis of the fee system and redistribution of the related funds with view of Poland's future functioning within the common European market,

- setting forth transparent rules for environmental subsidies, both direct and indirect (tax and duty reductions, preferential credits), including compensations for lost or limited ownership against protection of valuable natural resource,

- development of institutional management of the EU pre-accession, structural and ecological funds, collected and disbursed, (both prior and after joining the EU),

- necessary establishment or restructuring of institutions collecting and distributing funds from new environmental charges to enterprises or cancelling (limiting) former charges,

- increase – following the EU – of direct financing from the state budget and local budgets projects meeting the state and regional environmental objectives (especially with lower role of the specific i.e. target-oriented environmental funds),

- improvement of mechanisms for a joint use of funds from various sources (domestic and foreign) to finance approximation process to fulfil the EU requirements and co-ordination of effective expenditure.

Legal and organisational base for the goals should be created in a **short term** (by 2002), while their full implementation should be completed in **medium term** perspective (by 2005 at the latest).

147. According to studies done by Polish and foreign researchers, within the coming 10-15 years, **Poland is bound to spend an amount of at least Euro 30 bln to adjust to the EU regulations** (standards) concerning the quality of environmental components, emission of material and non-material pollutants and creation of a legal system, institutions and mechanisms for environment management that have been specified in the EU directives, decisions and other regulations. In accordance with the environmental principal rule – *the pollutant pays principle* – most of the cost shall be borne by Polish enterprises, and – what should be stressed – households. Increased environmental charge of households will be mainly caused by higher utility fees related to higher investments and current cost of water and sewage management (the most costly part of the harmonisation) and comprehensive systems of waste management. The higher burden will also result from product fees imposed on products harmful to the environment in after-consumption. Therefore, the environmental policy should aim at creation or support of mechanisms of financial aid based on preferential crediting and tax reductions for the households that will undertake protective investments, like construction of private sewage treatment plants, limited emission of particulate and gaseous emissions through modernisation of heating systems or increase in thermal efficiency etc.

148. As concerns businesses, majority of the adjustment cost will be borne within the frame of general process of modernisation, restructuring, privatisation and adjustment to market economy. This relates mainly to polluters like power plants, steal works, the chemical and mineral industry and the construction industry. Public support should have a form of indirect subsidies – preferential credits, customs and tax reductions going towards the EU regulations as well as the WTO ones taking into account domestic regulations concerning acceptable level of public support of enterprises. Poland has not fully used the potential of public support in the restructuring process in those sectors, as has been stipulated in the EU *restructuring clause*. The latter pertains also to environmental reconstruction of those sectors. However, we should not aim during the pre-accession negotiations at extending the clause or mitigating

its terms that condition the use of public funds. Having in mind the high cost of harmonisation of law, standards and environmental institutions with their European counterparts, Poland's main interest is the fastand full (i.e., with short transition periods) membership with the EU. As that is the only way to have access to sound financial support of environmental investments from the EU structural funds.

149. In order to obtain the full EU support,Poland as a candidate country will develop in 2000, the following documents:

- "Application strategy of ISPA funds as an auxiliary instrument of the national environmental policy",
- "National environmental strategy in 2000-2006" as an addition to the "National Development Plan" which shall condition Poland's readiness for the use of the EU structural funds after joining the EU.

Priority lists of the most costly investment projects will be prepared for projects that require support from the EU funds. Each project will also be documented to apply for the funds.

4.4. Institutional strengthening

150. In the pastten-yeartransformation process Poland already developed efficient organisational structures supporting the national environmental policy, in particular in the following fields:

- financing of the environment protection (National Fund for Environmental Protection and Water Management - NFEPWM) and a system of provincial and local community funds, EcoFund and other public and private foundations,
- environmental supervision (Environmental Inspection with a network of voivod labs, parliamentary control via the Supreme Chamber of Control and the State Labour Inspection, sector and branch controlling system, e.g., fire protection, building supervision, etc.). **These institutions should be reinforced** and improved towards the new state structure and new international commitments.

151. Recently, a number of agencies were established as public or mixed public and private structures acting partly or entirely in environmental protection sector (e.g., Agency for Power Saving). It is expected that the scope of the existing institutions will be broadened to deliver the following tasks:

- to collect, process and make available environmental information, in particular in the context of co-operating with the European Agency for Environmental Protection as well as fulfilling the commitments of the Aarhus Convention (actions within the existing Environmental Inspection),
- to notify, register and label hazardous substances and products and their trade concession,
- to notify and register dangerous constructions and to grant licences for risk expertise,

- to certify and register entities that implement environmental management systems, especially complying with EMAS requirements,

- to promote new technologies and BAT,

- to accomplish cross-region programmes for protection of biological diversity (NATURA 2000).

Agencies functioning in the a/m areas as agencies will be independent institutions but supervised by state bodies because their main tasks will include technical execution of procedures provided for in the EU Directives, environmental conventions and domestic laws.

152. The following institutions should **be reinforced:**

- Ministry of Environment and the subordinated institutions due to the necessary changes and amendments of laws, improvement of implementing the law, development and co-ordination of investment and modernisation programmes, collection and publication of information on BAT and "cleaner production", development of environment management systems as well as information and progress reports on approximation process to the European Commission and other international institutions. The sector considers creation of executive agencies for water management and environmental protection;

- Inspection for Environmental Protection in view of the necessary restructuring of the emissions monitoring system and environmental condition system, collection of information on approximation process and compliance of harmonised environmental standards as well as development of environmental reports for the European Commission;

- Sanitary Inspection in view of the necessary modernisation of water quality control, including drinkable and bathing waters, and control of air pollutants;

- Regional water management institutions in view of the necessary development and co-ordination of drainage programmes and collection of information on approximation process;

- Environmental Departments at Voivod Councils and respective local administration in view of the necessary implementation of integrated permits, renewal of water permits every 4 years, broadening the scope of permits for harmful sewage discharge into drainage systems, classification of waste, issue of permits on waste disposal and development of plans for waste management and reporting on their the implementation;

- Departments of Agriculture at Voivod Councils and respective local administration in view of the necessary planning, co-ordination and financing of investment programmes for reduction of nitrates transmitted from farms to surface and underground waters, publication of codes on good farming practice, especially in manure management and mineral fertilisers as well as for water protection against farming pollutants and promotion of organic farming.

4.5. Spatial planning

153. The spatial planning (including local community planning, voivod planning and concepts for country planning) is one of the most important tools for environmental management as well as for the state's policy of regionalisation (i.e., matching each area's development with its varied specificity). It also integrates various policies in different branches (including balancing the contradictory interest). The main tasks of the spatial planning from ecological point of view include:

- stimulation of changes in the economic activities and their structure to avoid excessive concentration, better adjustment with local and regional situation (especially with natural and environmental conditions), as well as lowering transportation needs in various spatial models,

- matching some contradictory trends in planning the development of the particular region, resulting from existing investments, human resources at hand and the level of environmental degradation.

154. Actions complying with the national environmental policy should take into consideration the division of the country's territory into three ecological areas, six macro-regions, function areas of the environmental policy and priority units (the latter ones should focus investments and restructuring in the short and medium term).

155. The three **ecological areas** include:

(a) *areas of heavy transformation and degradation or in danger of degradation* where ecological improvement is urgently needed by means of the most active industrial restructuring and low-waste technologies, including improvement of neglected environmental infrastructure, re-cultivation of degraded areas and revitalisation of ecosystems, and better cultivation structure on polluted soils and many other actions aimed at reducing the threat to health and life and to the environment's self-regulation;

(b) *areas of high natural value*, which require active prevention against possible degradation mainly by enlarging areas of special protection under the law (international, national and local) as well as by controlling economic activities on those areas through administrative measures;

(c) *mix areas* of dominating agriculture and scattered industry and urbanisation where the industry and nature are fairly balanced and where the environmental policy should focus on maintaining the balance by means of elimination, restriction or mitigation of environmentally dangerous trends in making business (like excessive development of construction investments at city outskirts and along transit roads and possible intensification of farming,.stimulated by Polish integration with the EU.

156. The most important function areas for environmental policy include:

- areas sensitive to human pressure and of special importance to preserve the natural resources and landscape values, especially to preserve biological and landscape diversity, within the

country, Europe and even globally (both areas of own valuable natural values and areas important for preservation of such values in other areas – ecological corridors),

- forests, especially large and compact forests (primeval forests),
- areas of water deficit,
- agglomerations (of intensive urbanisation and industrialisation),
- areas neighbouring international and national transportation nodes,
- areas of tradable minerals and main basins of underground waters,
- agricultural areas of good and medium soils planned for development of intensive agriculture,
- agricultural areas of poor soils planned for development of extensive farming and for production of the most clean and healthy food based on environment-friendly methods,
- areas of non-agriculture nature (marginal lands) planned for forests or other non-crops activities,
- areas of high natural and landscape values planned for development of tourism,
- bands and nodes of power distribution over 200 kV which require control and actions aimeddue at reduction of burdens to people and the environment due to their electromagnetic radiation and noise,
- cross-boundary areas sensitive to pollution from neighbouring countries, which also damage those countries' natural environment. The areas suffer also from the growing international transportation which is, on the other hand, an important issuepart of international co-operation in environmental protection,
- former and existing military training grounds and bases being under the threat of oil-based pollutants and other chemicals (including explosives) as well as noise.

[1.] The establishment of the **ecological priority units** has been based on four criteria:

(a) highest threat to life and to present and future material and living standards of their inhabitants,

(b) importance of restructuring and reduction of environmental pressure

(c) environmental improvements required by the international commitments of Poland, including agreements, concessions, etc.,

(d) Ecological safety to securethe Polish frontiers.

The above criteria are met by:

1. The Industrial Region of Upper Silesia,
- Baltic coast,
- Legnica and Głogów Copper Region,
- Tarnobrzeg Sulphur Region,
- cross-boundary areas already under functioning or planned international programmes (the Black triangle between three countries: Poland, the Czech Republic and Germany; the Katowice-Ostrava region; Poland's/Europe's green lungs; international biosphere reserves of: the Białowieża wilderness, Eastern Carpathians, the Tatras, the Karkonosze, the Lower Odra),
- territory around some check-points together with adjacent roads and surroundings,
- the so called "hot spots" in drainage areas of the Vistula and Odra rivers having an important impact on the quality of the Baltic waters,
- areas of special natural value which have been or are to be entered in international registers:
  - UNESCO-MAB international biosphere reserves,
  - The Ramsar Convention on Wetlands of International Importance and Water Fowl Habitat,
- Forest promotional complexes where the ecological forestry model shall be implemented.

158. In view of the fact that the pro-environmental improvement of country planning regards the basic instrument of environmental policy, one must assume that **all the tasks of spatial planning should be delivered in the short term, or in the medium term at the latest**.

159. The **short term goals** (2000-2002) of the spatial planning include:

- insertion in the country planning policy of the ecological requirements and recommendations on regional and local differentiation of industrial development,
- refining of detailed development strategies recommended within the a/m concept for macro-regions and smaller units and indication of the forms which shall be preferred, restricted or eliminated in the state's policy,

- assessment of the country planning concept following the rules of environmental impact assessment,

- development of recommendations to execute the spatial planning policy on voivod and community levels,

- development of ordinances and executive acts concerning detailed principles for spatial planning in order to make them efficient within the National Environmental Policy.

160. **The medium term goal** (2003-2010) of spatialplanning is verification of local planning with view to:

- wider consideration of environmental protection and forestry issues (restriction of business investments),

- reduction of excessive noise in urban areas, especially that coming from transports,

- reduction of transportation needs,

- improvement of the ratio between intensively invested areas and open areas in urban units.

4.6. Access to information, public participation and environmental education

161. Necessary legal, organisational and financial solutions will be undertaken in order to create in public administration an efficient system of publication of information as well as to promote public participation in environmental protection in line with the draft act on environmental impact and information availability. Latest information techniques will be applied to enable broad diffusion. Internet sites on environmental issues will be made accessible. Public registers will be established to provide:

- decisions on quantity and type of air pollutants allowed

- decisions on allowed noise level

- permissions for cutting trees or shrubs

- permissions for planned release of genetically modified organisms for experimental use or marketing of products containing genetically modified organisms

- listings of quantity and type of air pollutants introduced into the environment

- decisions on amount, postponement and instalments of penal fees for non-compliance in environmental protection:
  - exceedances, of the quantity and type of air pollutants emittedand previously licenced,
  - exceedance of allowed noise level given in the licence,
- decisions on penal fees for non-compliance in environmental protection based on:
  - damage of green areas or trees or shrubs due to improper ground works or use of mechanical equipment or chemicals harmful to the plants,
  - cutting trees and shrubs without permission,
- permits for generating waste,
- permits for eliminanation, use or neutralisation of hazardous waste,
- listings of type and quantity of waste disposed of on landfills and time of disposal,
- decisions on amount, postponement and instalments of penal fees for infringement of environmental protection when disposing waste in forbidden places or in ways infringing the decision on waste disposal,
- water law permits for supply of water,
- water law permits for discharge of sewage into waters and ground,
- listings of water supplied and quantity, type and composition of sewage discharged to waters and ground,
- decisions on amount, postponement and instalments of penal fees for non-compliance in environmental protection with respect to sewage requirements,
- decisions on penal fees for excessive water abstraction over the permit and water damming over permitted levels,
- decisions on protected forests or decisions removing their protective function,
- policies, strategies, plans subject to environmental impact assessment,
- decisions subject to environmental impact assessment,

- information sheets on environmental impact of activities,
- environmental impact reports,
- -*post*-project analyses,
- listings of dangerous facilities (in accordance with SEVESO II Directive),
- listings of notified hazardous substances marketed and products containing such substances,
- listings informing about release and transfer of pollutants.

162. Steps will be taken to have all the public environmental registers in the form of electronic data bases made publicly available. Administration shall take due care that public is consulted on draft bills, programmes, decisions and policies as broad as possible. To that extent internet sites, teletext and e-mail will be used. Third persons, including enterprises potentially dangerous to the environment or health, will be encouraged to publish information on mitigating or avoiding the danger. Instructions and clear rules shall be developed about participation of non-governmental environmental organisations in the supervisory boards of environmental funds, advisory bodies and steering committees established in connection with the use of public funds for financing of various projects. Clear rules for financial aid from public funds will be set forth, including ecological funds for non-governmental environmental activity and for organisations.

163. Non-governmental environmental organisations shall be supported, also financially, which perform educational, informative and consulting activities. The same pertains to organisations co-operating in the control and execution of environmental rules and in informing about the environmental management system. Promotion and education will be organised concerning access to information and public participation in environmental protection. Actions based on the "National Strategy for Environmental Education" will be intensified.

4.7. Scientific research and technical progress

164. It is necessary to enhance the link between environmental policy and scientific research. Therefore, information flow mechanism and feedback system are planned to be set up between research financed from various sources (state budget funds available to the Committee on Scientific Research and each economic sector, environmental funds, the industry's own funds or aid funds) and planning works, particularly concerning environmental executive programmes and action plans according to the National Environmental Policy and subsequent amendments to it An information centre is expected to be established at the Ministry of Environmental Protection that should collect and make available data on research work and results thereof, including those performed abroad and prepare periodic reports for responsible bodies on implementation of the national environmental strategy and sustainable development.

165. In order to secure efficient implementation of the national environmental policy, an important and coherent effort will be needed in research work that should basically focus on:

- provision of scientific basis for assessment of the condition of the environment; improvement of warning mechanisms about environmental problems (measurement methodologies and data processing and publishing),

- improved clarification of environmental processes (long term basic work),

- provision of facilities to elaborate legal and market instruments (research concerning emission standards, ambient and productstandards, risk assessment, environmental performance reviews, chemicals control mechanisms, etc),

- development and implementation of BAT, prevention, reduction and mitigation of impact of the civilisation progress on the environment (new materials, cleaner production processes, better waste management, biotechnologies, break down control, etc.),

- methodologies for executive programmes/action plans to the National Environmental Policy.

166. The research will be based on participation in international scientific programs and adaptation of their results (particularly on BAT) to Polish conditions. In the **short term** (2000-2002) and **medium term** (2003-2010) the work will focus on research issues (measurement methods, data protection, normalisation, risk analyses and new technologies) that condition effective implementation of:

- the EU Directives and other EU standards,

- international conventions and agreements signed and/or ratified by Poland including the criteria for selection of priorities as mentioned in section 6.2.

4.8. Control and monitoring

167. **Control and monitoring** include the following important issues:

- development of efficient controls at the provincial, local and community level and its effective co-operation with regional and local governments (Inspection for Environmental Protection, Labour Inspection, Supreme Chamber of Control, Sanitary Inspection),

- legal framework for public control over environmental protection,

- improvement of environmental data through better operationof the National Environmental Monitoring,

- improved reporting system, including integration between the environmental policy and sector policies and the needs resulting from new administrative division as well as the OECD recommendations, the EU requirements and international commitments.

The tasks above should be performed with use of the state-of-the-art methods of measurement, analysis and teleinformation compatible with international standards.

168. The **improvement in collectingenvironmental data** is necessary to make appropriate decisions. Priorities in the short term (2000-2002), prior to Poland's membership in the EU, include:

- filling the gaps in basic environmental data and improving their coherence, comparability and transparency; the latter pertains mainly to hazardous substances, like heavy metals or persistent organic pollutants as well as to products containing hazardous pollutants,

- standardisation of scientific and technical methods of data collection, processing and interpreting originating from various levels of public and economic administration and from different regions,

- monitoring of environmental effectiveness and sustainable development ratios as mentioned in sections 1.3 and 6.4 herewith,

- improved quality and increased frequency of environmental reports at local, regional and national levels, as consequence of establishing the programmes of sustainable development and environmental protection, including follow-up reports,

- obtaining membership in the European Agency for Environmental Protection prior to the EU membership.

169. The main **medium term** goal (2003-2010) in the control and monitoring is a complete harmonisation of procedures and scope with the OECD recommendations, the EU requirements and international commitments.

CHAPTER 5

INTERNATIONAL CO-OPERATION

170. The improvement in the national ecological safety and in the public health, as well as the support to implementation of the National Environmental Policy are the main objectives of actions which are being undertaken by Poland on international fora in the short-, medium-, and long-term time-horizon, particularly in relation to entering bilateral and multilateral environmental protection Agreements and to participating in activities of international organisations. These actions should consist, *inter alia*, of:

- facilitating and speeding-up the integration processes with the European Union; that is the absolute priority in the short-term time-horizon;

- benefiting from the international organisations experience, as well as of that of particular countries-parties to international agreements, when applying the best available environmental protection methods, as a tool to implement the National Environmental Policy;

- establishment of conditions for exporting Polish technical ideas in the field of environmental protection, and for expansion of the Polish enterprises, who are active in this field on the markets in Central and East European countries, developing countries, and also, when possible, on markets in highly developed countries.

5.1. Bilateral co-operation

171. The following **preferences** (in their hierarchy order) are to be pursued in the framework of bilateral co-operation:

- co-operation with Member States of the European Union aiming at benefiting fromtheir experiences in order to harmonise the Polish law and the Polish economy with the European Union requirements during the pre-accession period, as well as the application of these requirements once the membership is achieved;

- co-operation with Poland's neighbouring States, that is focused on: (**a**) provision of environmental safety in the Polish national territory in the context of transboundary air pollutant fluxes, pollution of transboundary watercourses and industrial and transport accidents involvinghazardous substances, and environmental impact assessment in a transboundary context; (**b**) implementation of joint environmental protection and sustainable development programmes in border zones, first and foremost, in the field of biological diversity conservation and landscape diversity protection; (**c**) stimulation of the co-operation between self-governmental authorities in border zones in the field of regional development; and (**d**) promotion of Polish exports;

- co-operation with the states and organisations, who are interested in the protection and rational use of water resources and in flood control within the Odra River basin;

- co-operation with the Baltic States, to be focused on the protection of the Baltic Sea marine waters against pollution, protection of fish resources and conservation of biodiversity throughout the Baltic Sea catchment area and in the Baltic Sea, and continuation of joint works aimed at elaboration and implementation of the Baltic Agenda 21, including the works relating to the implementation strategy for wider use of renewable energy sources in the Baltic States, as adopted in October 1999 during the Helsinki Ministerial Conference;

- co-operation with highly developed states (first of all with the States associated with the OECD, first and foremost with the USA), focused on benefiting from their experiences in the field of environmental protection, in particular on best available techniques (BAT) relating to management and technology;

- co-operation with Newly Independent States (NIS), who have been established in the territory of the former USSR focused on: (a) exports of Polish experience and Polish technical ideas in the field of environmental protection; (b) performing the „bridging" function in stimulation a gradual introduction by these States of the European and the globalenvironmental standards, which have been elaborated by highly developed States members of both the OECD and the European Union; and (c) expansion of contacts with the Polish emigration communities in these States;

- co-operation with the States, who similarly as Poland, have applied for the membership in the European Union.

172. The **short-term objectives** in bilateral co-operation include first of all:

- implementation of bilateral agreements with the neighbouring states in the field of environmental protection in order to favour the application of the European Union standards and of the European environmental conventions concerning the transboundary matters, conservation of biodiversity, protection of endangered species and the access to information;

- elaboration of technical assistance programmes dedicated to NIS in the scope of transferring Poland's environmental protection experiences, implementation of ecological conventions, gradual implementation of standards and procedures included in the European Union Directives, and promotion of Polish technical ideas, including export of technology, facilities and equipment applied in environmental protection.

173. The **medium-term objectives** in bilateral co-operation include first of all:

- elaboration of enhanced and detailedprogramme to protect water resources within the Odra River basin, as well as achievement of essential improvement in the quality of waters of the Nysa Łużycka River and the Odra River along their courses;

- establishment of the transboundary areas network for the protected nature, including ecological corridors at Western, Southern and Eastern borders in Poland;

- revision and improvement of the existing, as well as signing up new bilateral agreements with highly developed States, so as to include to the extent possible the matters of: (a) transfer of best available techniques (BAT) in the field of environmental protection; (b) joint implementation; (c) debt-for-nature swap; and (d) trade in emissions.

5.2. Regional co-operation

174. Poland's participation in the regional co-operation* in the field of environmental protection will concentrate around the action programmes as elaborated by the following international organisation and structures (in hierarchy order of the priorities):

- The European Union, including its subordinate institutions (e.g. European Environmental Agency);

- UN Economic Commission for Europe, including the process of „Environment for Europe";

- European environmental programmes of international financial institutions (the World Bank, European Bank for Reconstruction and Development, European Investment Bank, and others);

- European environmental conventions;

- Council of Europe;

- European co-operation programmes in the field of environmental protection, which are assisted by the institutions, and organisations of the worldwide range (the United Nations Environment Programme, the World Health Organisation, Organisation of Economic Co-operation and Development, the World Trade Organisation, International Labour Organisation, World Conservation Union, the World Wildlife Fund, and the others).

175. In relation to application for the membership in the **European Union**, the priority objectives include:

(a) *short-term objectives:*

- effective application of the pre-accession procedures in the field of environmental protection, so as the membership to this organisation would be achieved in 2003;

- achievement of membership to European Environmental Agency prior to the accession to the European Union;

- effective utilisation of the assistance resourcesobtained during the pre-accession period and allocated to environmental protection;

(b) *medium-term objectives:*

- effective utilisation of the transitional adjustment periods as negotiated prior to achieving the membership to the European Union, and achievement by 2010 of the state of the environment, which is required by the European Union Directives, ordinances and decisions concerning environmental protection;

- effective implementation of investment processes in the field of environmental protection with application of procedures elaborated by the European Union;

- harmonisation of both the organisational and the administrative structures, and having in place the competent human resources prepared for the implementation of the European Union Directives, ordinances and decisions concerning environmental protection, as well as for effective co-operation with the European Union institutions concerning environmental protection;

- harmonisation of environmental monitoring with the European Community requirements.

176. In the framework of the co-operation with the **UN Economic Commission for Europe**, the priority objectives include:

(a) *short-term objectives:*

- active participation in „Environment for Europe" process, including preparations to the Kiev Ministerial Conference planned for 2002;

- providing the input to the implementation of decisions made by the Vienna Ministerial Conference on „Transport and the Environment", and by the Ministerial Conference on "Water and Health" held in London;

(b) *medium-term objectives:*

- active participation of Poland in the activities carried out by the UN/ECE Committee for Environmental Policy;

- full implementation of the European strategy for withdrawal from use of leaded petrol.

177. Poland will co-operate actively with the **international financial institutions** implementing environmental programmes in the European Region (the World Bank, the World Wildlife Fund, European Bank for Reconstruction and Development, European Investment Bank, Nordic Bank, and others) to achieve gradually by 2010 the following:

- enlarge the volume of resources which have been involved by these institutions in the implementation of environmental protection projects on the territory of Poland;

- increase the number of Polish experts to be involved in the functioning of these institutions and in their environmental protection projects being implemented beyond the territory of Poland, in particular in newly independent States established after decomposition of the former USSR.

178. An important element of the National Environmental Policy is to implement and enforce the European environmental conventions, since it fulfils the three following objectives: (a) speeding up and facilitating the harmonisation process of the Polish environmental protection law with the European Union legislation, because most of the Conventions include obligations similar to provisions included in the respective EUDirectives; (b) it is an element of strengthening Poland's prestige on international fora; and (c) it has its positive effects on the improvement of the Polish environmental law towards larger application of the European standards. In relation to European environmental conventions the following priority objectives should be set:

(a) *short-term objectives:*

- ratifying all the conventions signed so far, as well as the protocols to these conventions, including the amendments thereto, whose obligations are possible to be met by Poland, taking into account the economic potential and the predictable economic and social effects of these international agreements;

- drawing-up executive programmes or national strategies in relation to each international legal act which is the subject of ratification, prior to its ratifying, and revision of these programmes and their submission to the international fora in due time and form, once a convention is ratified or accessed, as required by each of the conventions;

(b) *medium-term objectives:*

- assuming the principle, that Poland will be the party to all of the international environmental conventions, to whom the European Union will become the Party too, except for such subregional conventions which do not regard Poland's territory;

- implementation of internal circulation of information and of the coordination system activities which are relevant for negotiating, implementing and reporting in relation to: (**a**) the international environmental conventions; (**b**) the European Union Directives; (**c**) recommendations, declarations and programmes being made by international organisations, dealing with environmental matters; and (**d**) the provisions of the Polish law and the action programmes in the field of environmental protection.

Poland as a Party will implement all the binding obligations included in conventions and protocols ratified by it.

179. In the framework of the co-operation with the **Council of Europe**, the priority direction should be the implementation of the European strategy for biological diversity conservation and landscape diversity protection.

180. In co-operation with the **worldwide international organisations**, the priority directions for Poland's contribution to the co-operation on the **European forum** include:

- implementation of the recommendations portfolio made by the Organisation of Economic Co-operation and Development concerning environmental matters;

- co-operation with the Committee for the Environment and Trade of the World Trade Organisation;

- implementation of projects of the World Conservation Union (IUCN) and of the World Wildlife Fund which relate to nature conservation in Poland.

5.3. Participation in solving the global problems

181. Poland will participate, as far as possible, in solving the global environmental problems, according to the Rio Declaration, and it will actively participate in the works of the UN Commission for Sustainable Development and in the United Nations Environment Programme, and it will fully implement all the binding obligations resulting from signed and ratified global environmental conventions. However, given its economic potential, the magnitude of the national revenue, and limited financial and human resources, Poland is not in position to support all of the initiatives being adopted on the worldwide forum, as well as to participate actively in all of the conferences and working sessions, and in international research programmes. So, Poland must make its choice, pursuant to principles as included in section 6.2. of this document.

182. Poland's priorities for international co-operation to be carried out in the framework of the global environmental conventions are following:

- The United Nations Framework Convention on Climate Change and the Kyoto Protocol;

- The Rio Convention on Biological Diversity and the Protocol on Biological Security;

- The Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, including the amendments thereto;

- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal;

- The Convention on International Trade in Endangered Species of Wild Plant and Animals (CITES);

- The Bonn Convention on the Conservation of Migratory Species of Wild Animals, including additional Protocols thereto;

- The Ramsar Convention on Wetlands of International Importance, especially as Waterfowl Habitat.

The only aim of the above priorities is to allocate the national resources appropriated for research and study works, for expertise, for financing participation in international research programmes, and for international travels, so generally - for the implementation of the non-binding obligations included in the aforementioned Conventions. The binding obligations in relation to all of the Conventions will be implemented to their full extent.

183. As far as the implementation of the global environmental conventions is concerned, the priority objectives include:

(a) *short-term objectives:*

- ratification of the Kyoto Protocol;

- ratification of the Convention on the approval procedure after previous notification in international trade in certain hazardous chemical substances and pesticides;

- ratification of the Protocol on Biological Security to the Convention on Biological Diversity;

- ratification of the United Nations Convention on the Combating of Desertification in Areas Affected by Serious Droughts and/or Desertification, especially in Africa.

(b) *medium-term objectives:*

- implementation of a domestic joint system for circulating relevant information and coordinating negotiation, application and reporting activities in relation to global ecological conventions as well as, regional ones (see section 5.2)

184. In the framework of the co-operation with the international organisations, who deal with environmental protection matters on the global level, Poland will participate actively in their programmes and action plans which are addressed to Europe, and which relate or might have related to Poland, especially in the framework of the Rio + 10 process which will be crowned by the Global Rio Conference in 2002.

CHAPTER 6

EXECUTIVE PROGRAMMES AND IMPLEMENTATION CONTROL

6.1. Executive programmes and time-schedules for meeting the objectives

185. Once this New National Environmental Policy is agreed and adopted, the Minister of the Environment will elaborate the Executive Programme for this policy, to include therein:

- detailed guidelines relating to the principles and scope for taking into account the environmental protection issues in particular sectoral programmes;
- cost estimates for achieving the objectives of the National Environmental Policy (short- and medium-term ones) in relation to both the rational use of natural resources and the environmental quality (see Chapters 2 and 3);
- time-schedules for responsibilities to be imposed on the public administration in the scope of upgrading the environmental policy tools and instruments, international co-operation, drawing-up executive programmes, and provision of the implementation control over environmental policy and carrying out its assessment and updating (see Chapters 4, 5 and 6); these time-schedules should include, at least, the name of the task, the names of responsible authority and co-operating authorities, and the method for the task implementation, including its time scales;
- strategy for developing environmental management system.

186. Also, the other executive programmes and relatedtime-schedules will serve for the implementation of the National Environmental Policy, and will be additionally stimulated by already existing environmental policy tools and those which are to be introduced, and by control procedures, with application of agreed measures. These programmes should be integrated in the strategies, policies and programmes concerning particular sectors of the national economy, and also in spatial planning policy. Separate, inter-disciplinary programmes or strategies in the field of environmental protection, beyond the executive programme for the National Environmental Policy, will only be drawn-up for the purpose of implementing international obligations, including, first of all, these which relate to the accession process to the European Union. In the phase of the short-term objectives implementation, and in the initial period of the medium-term objectives implementation, they will be as follows:

- the national strategy for waste management on the national level;
- the national strategy for water management and water quality improvement;

- the national strategy for air quality improvement;
- the implementation programmes for achieving goals established in the EU legal acts concerning water quality, air quality and waste management;
- the national strategy for limitation of heavy metals and persistent organic pollutants emissions (including the withdrawal of leaded petrol from the market);
- the national strategy for limitation of greenhouse gas emission and for upgrading energy efficiency;
- the national strategy for development of renewable energy sector;
- the national strategy for biological diversity conservation and landscape diversity protection;
- the national strategy for biological safety (in the field of biotechnology and in controlling the use of genetically modified organisms);
- the national strategy for soil protection and its sustainable use;
- the national programme for environmental education, enhancement of the public access to information and of the public participation to environmental decision making processes;
- the strategy for improvement in river-water quality and for provision of flood control (in relation to the Helsinki Convention, and to international obligations relating to the protection of the Odra River waters, and to the assistance programmes, as established for removal of 1997 Odra flood impact);
- the strategy for groundwater protection against pollution, in particular for the protection of major groundwater reservoirs.

187. The National Environmental Policy and the executive programmes, as referred to in paragraphs 185 and 186 above, should be used when drafting the provincial, county, and the community programmes, as well as supra-local and inter-provincial programmes, when the competent authorities decide on the need to draw-up such programmes.

188. For the strategies and programmes as specified in paragraphs 185 and 186, which constitute direct development of the National Environmental Policy, the action plans should relate tothe implementation of ecological objectives and sustainable development within energy, industrial, transport, and agricultural policies, etc., and spatial and regional management policies. The best solution would be, if they constitute a relevant chapter in particular description of a sectoral policy in question (e.g. transport and environmental protection, human health and environmental protection, energy and environmental protection, building and environmental protection, etc.), and in regional development programmes, in order to provide for cohesion between the state policy and the policies being pursued by territorial self-governmental

units. Also, such specific policies, strategies and programmes which relate to separate fields of environmental protection in itself, and to the natural resource management, first of all, to water management and forest management and to geological works and rational exploitation of fossil resources, should be considered as the sectoral executive programmes which are to serve the National Environmental Policy.

6.2. Criteria for priorities selection

189. The tasks to be included in the implementation programmes of environmental policy should be put in hierarchy order using of the following criteria:

A. The first group criteria

(for establishment of the priorities for task implementation and for division of available public resources):

- elimination of direct hazards to human health and life (including elimination of the so called „hot spots");
- counteracting environmental degradation throughout the national territory;
- counteracting global hazards (climate change, ozone layer).

B. The second group criteria

(for making choice of specific environmental protection investment projects in the framework of the priorities established):

- ecological and economic efficiency (minimising cost per effect unit);
- partial or total self-financing (obtaining economic benefits apart from the ecological ones);
- promotion of demonstration projects (the opportunity to reiterate the solutions).

The above criteria are specified in hierarchy order in the framework of priorities within each group.

6.3. Expensesfor implementation of environmental policy

190. In the short-term and in the medium-term (by 2010), major investment direction in the field of environmental protection will be to solve the problems of water protection against pollution and waste management to such extent that the requirements of the European Union could be met

Indispensable expenses for these purposes are presented in Table 1.

The totals in Table 1 have been calculated in detail with regard to the European Union Directives concerning the basic components of environmental protection.

Table 1

Investments needed for harmonisation of the Polish economy with the European Union requirements in the basic components of environmental protection

Investment fields	Investmentcost in billion PLN, 1999 prices Short-term priorities (2000 - 2002)	 Medium-term priorities (2003 - 2010)
Water protection against pollution	15.8	27.4
Air protection against pollution	23.6	27.8
Waste management	5.2	10.6
TOTAL	**44.6**	**65.8**

Source: estimates made by the Ministry of the Environment

191. The resource, as referred to above, will originate from various funding sources (Table 2).

Table 2

Envisaged funding sources for investment cost for harmonisation of the Polish economy with the European Union requirements in the basic components of environmental protection

Funding sources	Cost in billion PLN, 1999 prices Short-term priorities (2000 - 2002)	 Medium-term priorities (2003 - 2010)

Proprietary resources	20.8	36.9
The state budget	1.7	2.9
Environmental funds	14.5	18.3
Foreign assistance	3.0	0.8
Structural funds	0.9	6.8
TOTAL	**40.8***	**65.8**

- it is anticipated, that the resources which are lacking for full coverage of the investment needs for the purpose of short-term objectives will be supplemented by means of enhanced involvement of the proprietary resources and the ecological funds' resources as a result of change in the system of mechanism which are to stimulate the pro-environmental activities, as well as to increase the revenues of funds

Source: estimates made by the Ministry of the Environment

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192. The investment outlays for remaining objectives of the environmental policy which have not been included in the above compilations, such as: protection against noise and vibrations, biodiversity conservation, provision of chemical and biological safety, afforestation, environmental education, development of environmental monitoring (except for water and air protection), will not exceed 25 per cent of the totals specified in point 190. That means, the total investment cost for the implementation of the National Environmental Policy should amount in the period of 2000 - 2010 to:

138.0 billion PLN.

193. It is anticipated, that the structure of these expenses throughout the period of 2000-2010, by their source of origin, will be as follows:

- proprietary resources (of territorial self-governments and businesses) 50%
- environmental funds 30%
- the state budget 7%

- foreign assistance 5%
- structural funds of the European Union 8%

The efforts will be made, as far as possible, in order to change the above structure towards the growth in the state budget share at the expense of the environmental funds.

194. In order to achieve the necessary level of expenses, as referred to in point 192, there is the need to maintain the environmental protection outlays on stable level in relation to the magnitude of GDP and to the amount of total investment cost within the national economy (in 1998 those accounted for 1.6 per cent and 8.0 per cent, respectively) provided stable, 5 per cent annual growth in the national revenue during the period in question. That means, that with environmental protection expensesin 1999 on the level of 9 billion PLN they should gradually grow in 2000-2010 up-to 16.2 billion PLN. Total costin 2000-2010 would hence amount to 141.5 billion PLN, that with a slight margin would secure the magnitude of resources necessary to implementthe National Environmental Policy, as referred to in paragraph 192.

195. Implementation of environmental policy will also result in increased budgetary spending, related to the need to establish new institutions, and in increased spending for legislative activity, for human resource training, for membership fees to international organisations, and for the other indispensable activities. The estimates of such costs were carried out for the period of 2000-2002, when the intensification of the activities to be pursued by the public administration in the field of environmental protection will relate mainly to the implementation of preparatory programme for the membership to the European Union. Estimated cost are given in Table 3. They include major directions of this programme, particularly in its part pertaining to environmental protection (horizontal law, nature conservation, water quality, industrial risks, air protection, noise, chemicals, GMO, waste management).

Table 3

Budgetary spendingfor the approximation of the public administration in Poland to the European Union requirements in the field of environmental protection in 2000-2002 (estimates)

The objectives of increased budgetary resources	billion PLN
New investments	211.9
Land purchase for nature conservation sites	30.0
Membership fees	9.6
Training	3.7
Legislative activities	3.8

Others	3.0
TOTAL	**262.0**

It is estimated, that the costs for other objectives of environmental policy, those that do not relate to the approximation activity, will not exceed 5-7 per cent of totals specified in Table 3. It can be then recognised, that the total increased budgetary expenses relating to implementation of the National Environmental Policy will amount in 2000-2002 to:

280.0 billion PLN.

6.4. Indicators of environmental policy effectiveness

196. The provisions included in the executive programmes, as referred to in paragraph 6.1 above, should be as far as possible quantified, so as the practical opportunity would exist to control the achievement rate of the objectives, hence the overall assessment of the National Environmental Policy effectiveness. The State statistical system, and the other control mechanisms, should be modified so as it could be possible to carry out such assessment from time to time (annually, every 3 years, in 2010, and in subsequent years) with the use of the **indicators of the National Environmental Policy implementation**. Particularly important measures include:

- the **rate of gap closure**(%) between factual environmental pollution (e.g. in terms of deposition or concentration of particular pollutants in the air, water, soil) and the permissible pollution based on scientifically justified grounds (critical load);

- the **quantity of energy, materials and water consumed, and the volume of waste generated and pollutants emitted** per GDP unit or the unit of production (expressed in physical units or by the value sold);

- the **ratio of cost-benefitin term of environmental effects achieved** (for assessment of investment programmes and projects in the field of environmental protection);

- the **technical and environmental characteristics** of materials, facilities, products (e.g. lead contents in petrol, mercury contents in batteries, unit emission of hydrocarbons when operating a vehicle, noise level during the vehicle use); in accordance with the principle of access to information, this data should be made available on labels or in technical sheets accompanying the products.

The above indicators should be collected and they are to be used when carrying out the assessment of the National Environmental Policy implementation in its two basic profiles: territorial (down to the plant, inclusive) and sectoral.

197. Apart from the main-indicators, also the social and economic indicators, the indicators of environmental pressure and of the state of the environment, as well as both the State and the public response indicators will be applied e.g.:

(a) *social and economic indicators:*

- improvement in citizen's health condition, as measured by such indicators as life expectancy, drop in infant mortality, drop in morbidity in the areas, where harmful environmental impacts occur with particularly considerable intensity (in mostly industrialised and urbanised areas);

- reduction of energy, raw materials and materials use per production unit, and reduction of total material flows within the national economy;

- decrease of the areas excluded from their agricultural and forestry use for the purpose of the other production and material service sectors;

- annual net increase in labour places being achieved as a result of implementation of environmental protection projects;

(b) *indicators of the state of the environment and of the change in environmental pressure:*

- reduction of pollutants load discharged into inland and marine waters, improvement in the quality of running and stagnant waters and of the groundwater, particularly in major groundwater reservoirs, improvement in drinking water quality, and meeting by all these water categories the quality requirements binding in the European Union;

- improvement in air quality by means of reducing the air pollutant emissions (particularly the pollutants which are considerably harmful to human health, and pollutants having the most adverse impact on ecosystems, particularly, heavy metals, persistent organic compounds, acidifying substances, particulate matter and volatile organic compounds);

- reduction in noise impact, first of all,the noise level alongside proprietary boundaries around industrial objects, street noise in cities, and noise alongside communication routes;

- reduction in the volume of waste generated and disposed of, enhancement of the scope of their economic utilisation, and limitation of environmental hazards from hazardous wastes;

- limitation of soil degradation, diminishing of degraded forests in industrial areas and in the areas abandoned by the former Soviet Army troops, including elimination of old waste disposal sites, enhancement of restoration scale to the conditions of ecological equilibrium of the areas which have been directly or indirectly degraded by economicactivity, limitation of deterioration of environmental quality in settlement units and hampering degradation processes of cultural monuments;

- growth in the national forestage, enhancement of forest area re-naturalisation, and the growth in the timber-mass reserves and in its increase, and the improvement in forest health conditions in forests which suffer from the air, water or soil pollutants;

- slowing extinction of plant and animal species and extinction of their natural habitats, as well as successful reintroduction of species;

- reduction of negative interference in landscape and developing aesthetic landscape for its harmonisation with surrounding nature.

(c) *indicators of the state and the public response:*

- completeness of legal regulations and their harmonisation pace with the EU legislation and with international laws;

- activity coherence and effects in the scope of environmental monitoring and inspection;

- scope and effects from educational activities, and the rate of public participation in decision-making processes;

- elaboration and implementation of environmental protection projects by social groups and non-governmental organisations.

6.5. Periodical assessment and review of the National Environmental Policy

198. The National Environmental Policy will be analysed by the Government and it will be revised in the periods which are to be harmonised with the time-limits of drawing-up and entering into force of subsequent European Union Environmental Action Programmes.

* For the purpose of this document, „Region" means the so called Region of the UN Economic Commission for Europe, i.e. all the States in Europe, and USA, Canada, and Israel, and also newly independent States in the territory of the former USSR in Central Asia and in the Trans-Caucasian Region

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